

TWIN CITY LINES

WINTER 2009





TWIN CITY LINES

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P. O. Box 14467 University Station
Minneapolis, MN 55414-0467
(952) 922-1096

www.trolleyride.org

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Editorial staff

Aaron Isaacs
Editor

3816 Vincent Avenue South
Minneapolis, MN 55410
612-929-7066
aaronmona@aol.com

Sandra Bergman
Production Editor

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The Minnesota Streetcar Museum operates the Como-Harriet Streetcar Line in Minneapolis and the Excelsior Streetcar Line in Excelsior. Its mission is to preserve Minnesota's electric railway heritage.

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CORRECTIONS AND NEW INFO

The bulb goes on (dimly) in the Editor's head: After the Fall issue went to press, a possible explanation for the military special movement on page 8 occurred to me. It could be the members of the U of M ROTC program traveling to the St. Paul campus farm fields for training maneuvers.

The group posed at Wildwood Park on page 7 turns out to be a TCRT company outing in 1913. Look closely at the interior shot. Under the destination sign is the very company logo that appears on page 22. Why don't I notice these details before the issue comes out?

The 1917 TCRT trainman's rulebook reveals a bit more on the handling of mail. The Postal authorities "are responsible for putting United States Mail on Car and removing same at destinations. Under no circumstances shall trainmen leave Car to make delivery of mail. If representative of Post Office Department fails to meet Car, motorman shall turn dispatch over to Starter or Station Foreman at first opportunity. Trainmen shall not accept, take charge of or become responsible for "any mail matter with Government postage stamps affixed."

Russ Olson writes:

"I wonder if the young man in the page 17 photo with Mr. Goodrich could be Donald Goodrich. The latter became Minneapolis Superintendent, then General Superintendent and finally Assistant Treasurer of TCRT."

Tom Fairbairn follows up on his Poles and Wires article, plus some other comments:

"One correction for my article: in the text, second column of page 9, the name of the trolley bases was "United"

Standard, not "Universal" Standard as I stated; correction with thanks to Russ Olson.

Also, on page 13, the bottom left photo: I believe the gent was transferring the pole to the proper wire. It would be nearly impossible to keep a hand on the rope while backing a PCC, given the locations of the controls versus the access to the rope. There is only one man visible in the picture, and it would take two to do what is suggested by the caption. Keep in mind, as shown in that photo, the catcher was above the rear windows, therefore to work the rope while backing would be highly unlikely on a one-man car.

On page 10, there is a guy on top of the rear car on the third line carrying destination signs. All single-truck cars in the picture have brackets for the wooden board destination signs, which are not in place in this photo, so I would assume these cars are pull-ins following the busy hour, or are awaiting signs for the early morning pull-out.

While some manufacturers supplied a single pole on single-truck double end cars, most single-truck double-end Birneys had two poles almost throughout their building period. I seldom see a photo of a Birney with single pole, except for the single-end versions. The Birney was a safety car, and to have to swing a single pole in traffic was not a safe proposition, especially at nights!

I can't say for certain why, but Duluth basket fenders differed in design from those of the Twin City Lines. I am inclined to think, from that same page 10 photo, that that difference is because each single-truck car, despite being double ended, carried only one fender that had to be carried between

ends at the terminals, and so had to be easily lifted off and set back on, which is the case with 265's fender. This was not uncommon amongst smaller roads. The fenders used on the single-end cars obviously were never changed while on the road, but would most likely have been of identical design to simplify logistics. Minneapolis had TCRT standard fenders at both ends of the few double-end cars they ever operated.

The photo of 438 at the right center of page 7: Was that actually a special, or a regular run with an informative placard in the windshield? A lot of times and in other places, signs of that type were used to announce dances, ballgames, parades, and other civic functions on scheduled cars and/or to indicate that car would be passing the site of the event. I would think a special run would have "SPECIAL" rolled up rather than a regular route name. The Oak-Harriet cars would have passed right by the old Williams arena at 4th Street SE and Oak.

On the inside rear cover, it is interesting to note that although the supporting line center pole has double bracket arms, only the arm closest the camera is wired. This would indicate to me either a temporary installation, or temporary end-of-track. Per company records as detailed in Russ' book, the line to 46th and Bryant was installed in 1893 as an extension from 38th Street to 46th (8 blocks, roughly a mile - ERM, page 38), and was in full operation by 1900/1901, operated out of the 31st Street station (ERM, page 142). A "double-end" car could easily have served temporarily for those eight blocks to get the line in operation during construction. Centre-pole construction ceased at 1899, and following that the centre-poles were

Front cover: This issue takes a closer look at TCRT's Lake Minnetonka empire (see page ____). The express boat Como passes eastbound through the Narrows, as part of its scheduled visit to all lake points following the demise of Big Island Park. Minnesota Historical Society collection.

Inside front cover: The steepest streetcar hills in the Twin Cities were in Stillwater. The camera is looking east on Chestnut Street from 3rd Street toward downtown Stillwater and the St. Croix River. The grade in the foreground is at least 7.5 percent. Bayport and Owen Street local cars took the track at right, interurbans to St. Paul and Wilkin Street local cars the track at left. John Runk photo.

replaced by side poles and span wires between 1899 and 1908 (ERM page 51), so this photo would very possibly be at the 1893-1894 time frame if it shows the 46th and Bryant line during construction. Use of the horsecar body for the waiting station would be commensurate with that time frame, but by the early 1900s there would have been few, if any, horsecar bodies still available for any use. It would be interesting to know more about this type of operation with a gate car! It is possible this was used to provide service until a proper loop or wye could be constructed. Until that occurred, only the one track would be in use so passengers could load and unload at stops to the proper side of the right-of-way, a further reason for the far track to not yet be wired."

THE SINS OF YOUTH

-Aaron Isaacs

Every operator at Como-Harriet or Excelsior has experienced the senior citizen who confesses to the youthful sin of pulling the trolley pole off the wire and running away. I've heard about greasing the tracks on Xerxes Avenue, so cars attempting to stop at 45th Street would slide over the crest of the hill. One man who attended De La Salle High School recalled that PCC cars with their softer suspension could be made to rock violently by four pairs of boys working together in the rear of the car.

I recently gave a streetcar talk to the Robbinsdale Historical Society and heard two more stories worth retelling. There was a three-cent zone fare for kids riding from Minneapolis to Robbinsdale, to be collected upon leaving the car. One gentleman admitted they would jump out the window to avoid paying it.

Then an elderly woman rose and said she had a secret she had never

revealed before. As a child she lived at 42nd and Douglas in Crystal, a mile west of the end of the Robbinsdale line. One winter day, she and her brother decided to go sledding in Wirth Park. They pulled their toboggan to Robbinsdale, loaded it on the streetcar, and got off at the traffic circle by North Memorial Hospital (since replaced by a highway overpass). They walked more than a mile to the sledding hill. What was the youthful sin? They rode their toboggan down the ski jump. Amazingly, they were uninjured, walked back to the streetcar and returned home. She never told her mother about the ski jump.

If any readers have similar stories, we'd love to publish them.

THE BEST TRANSIT COMPLAINT EVER

This letter arrived at the Metro Transit offices in May 1978. The staff immediately recognized it as a classic. It's about buses, not streetcars, but it's too good not to share.

Dears Sirs,

After riding your buses I amazed how an engineer could design a vehicle that apparently every screw, bolt, nut, rivet, window, key, pin, washer, rod, bearing, lug, tube, bulb, angle, clevis, pipe, cover, clamp, cap, floor, rack, channel, spring, door, adaptor, joint, sing, plate, seat, brace, bracket, panel, lid, shield, gear, cam, shaft, link, handle, louver, grille, catch, ornament, duct, sleeve, arm, sign, knuckle, leg, lens, lever, socket, mirror, trim, molding hanger, pan, lid, deck, rim, coupler rack, roof, and etc. can rattle, shake, roll, vibrate, spin, wrack, wiggle, weave, shift, veer, twist, sway, chop, whine, shiver, scrape, rub, tremble, clatter, jerk, twitch, wrench, distort, squirm, writhe, splay, and contort, without completely collapsing before it gets to the end of the run.

MAKING THE GRADE

-Aaron Isaacs

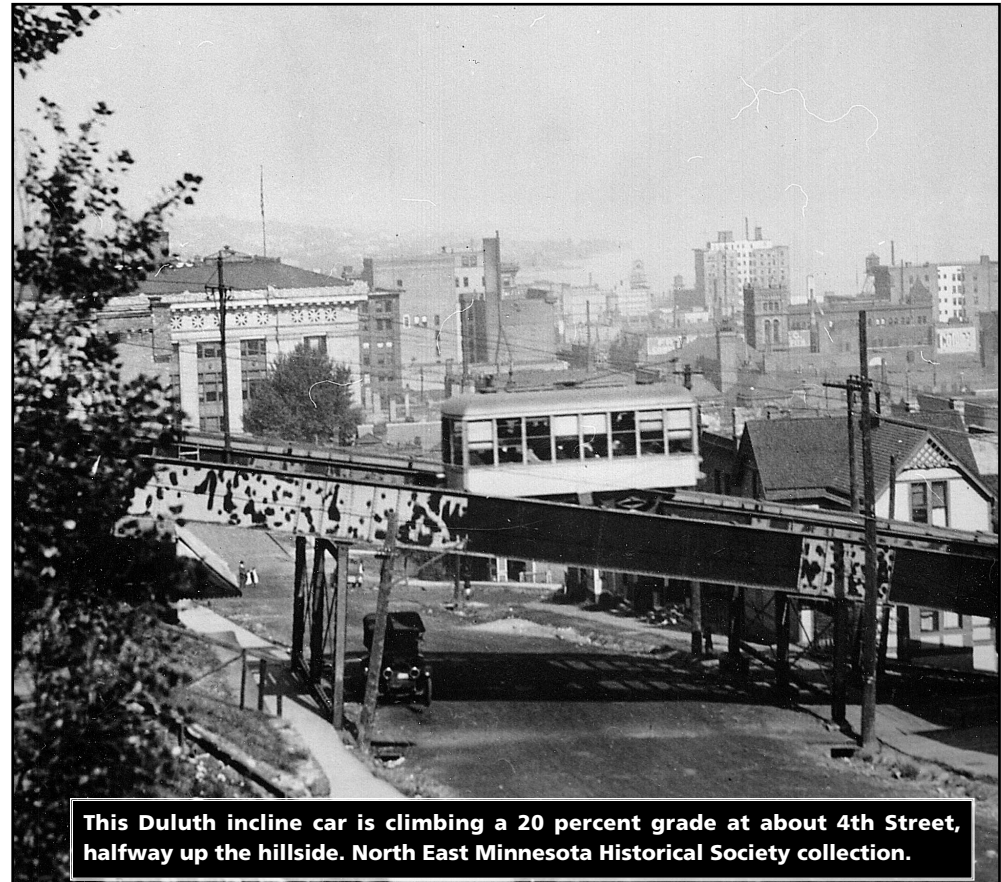
Minnesota isn't considered a hilly state, but it isn't all flat, either, and streetcars had to deal with that. This article answers the questions, "Where were the streetcar hills, and how tall and steep were they?"

Who climbed the highest?

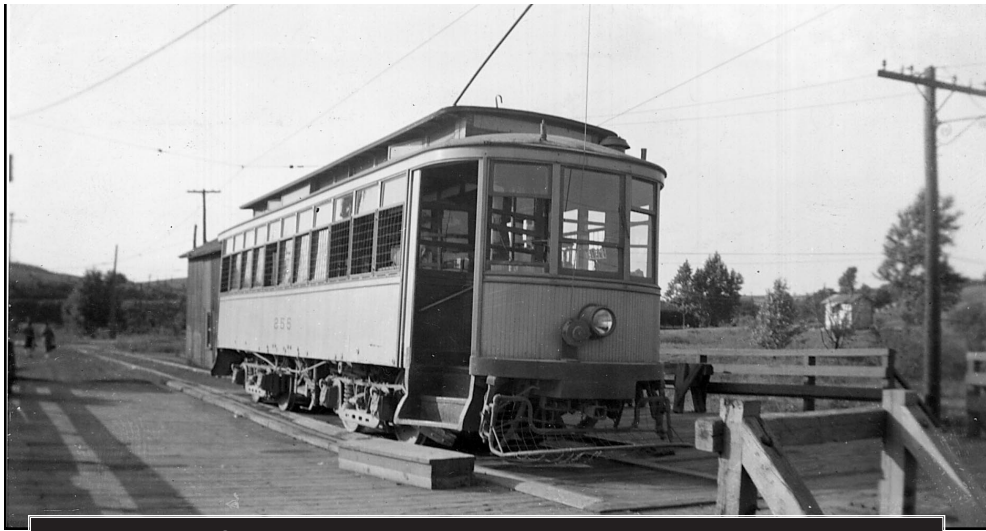
Not surprisingly, the tallest and steepest hills were in Duluth, where the street grid was laid over a sometimes precipitous hillside. It's the highest urbanized hillside in the state, and I'm not the first to liken it to San Francisco. The, Piedmont, Kenwood, E. 8th Street, Woodland and Crosley lines all climbed away from the mostly-level spine on Superior Street.

Three lines made it to the top of the mighty ridge. The westernmost was the isolated Highland line, in combination with the 7th Avenue West incline, which together rose 640 vertical feet. The incline accomplished the first 520 feet from Superior Street. The streetcar, which started from the top of the incline, wandered upward another 120 feet to the Duluth Heights neighborhood.

The Kenwood and Woodland lines achieved the summit on their own. Starting from the corner of Superior Street and 3rd Avenue West in downtown, they climbed 620 and 750 feet respectively. No other elevation changes in the state even came close. Duluth's other significant climbers (which still exceeded anything in Minneapolis and most of St. Paul) included the East 8th Street line at 405



This Duluth incline car is climbing a 20 percent grade at about 4th Street, halfway up the hillside. North East Minnesota Historical Society collection.



From the top of the incline, the isolated two-mile Highland line climbed the remaining 120 feet to the summit.

feet, Crosley at 380 feet and Piedmont at 310 feet. Add to that Lester Park at 220 feet, W. 4th Street at 180 feet and West 57th Avenue at 140 feet. The accompanying maps show both vertical rise and steepness of grade.

In the Twin Cities, the Cherokee (Smith Avenue), Stryker and South Robert lines serving St. Paul's hilly West Side were the elevation champs, achieving climbs of 300 feet (Cherokee), 260 feet (Stryker) and 215 feet (South Robert). Lesser St. Paul climbs include 140 feet on Randolph from Chatsworth to Hamline, 140 feet on Ford parkway and Randolph from the Ford Bridge to Fairview, 135 feet up through the Selby Tunnel, 130 feet up St. Clair from West 7th Street, 120 feet up Grand hill and 120 feet along various streets of the Payne line.

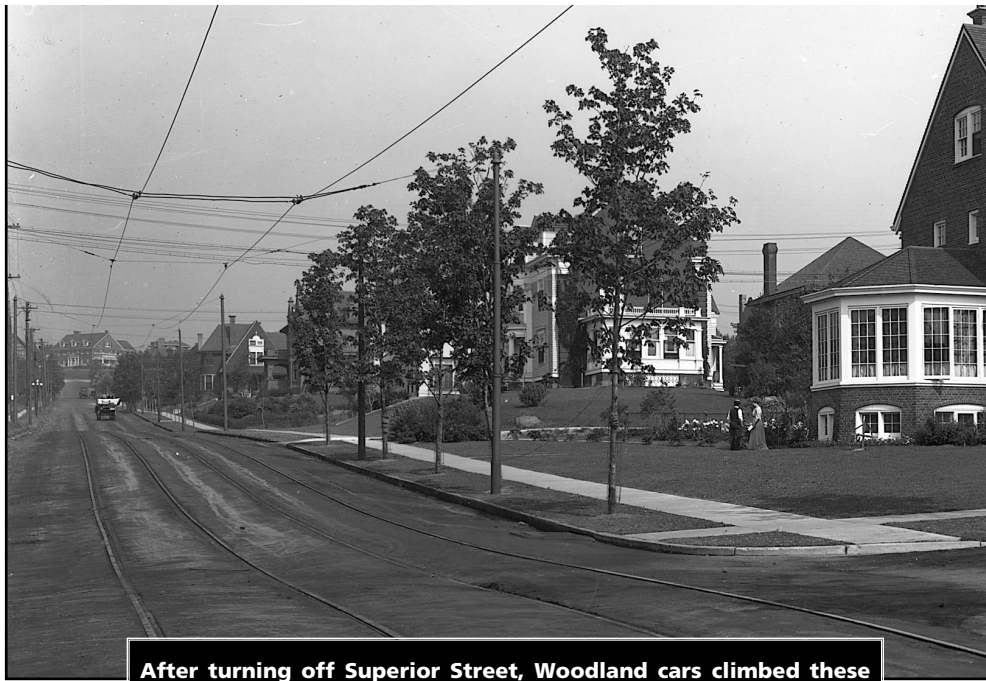
It's no secret that St. Paul is hillier than Minneapolis, where the largest rise on any line was only 90 feet, the Kenwood line ascending Lowry Hill.

Leaving downtown Stillwater, every car faced an uphill haul. The highest was the Wilkin Street local line to the north side of town. It climbed 240 feet, slightly higher than the Owen Street line on the south hill at 230 feet.



Piedmont Avenue was a continuous, mile-long 7-8 percent grade that twisted and turned away down to the lake. It's unclear why workers are moving all that snow by work car. North East Minnesota Historical Society collection.

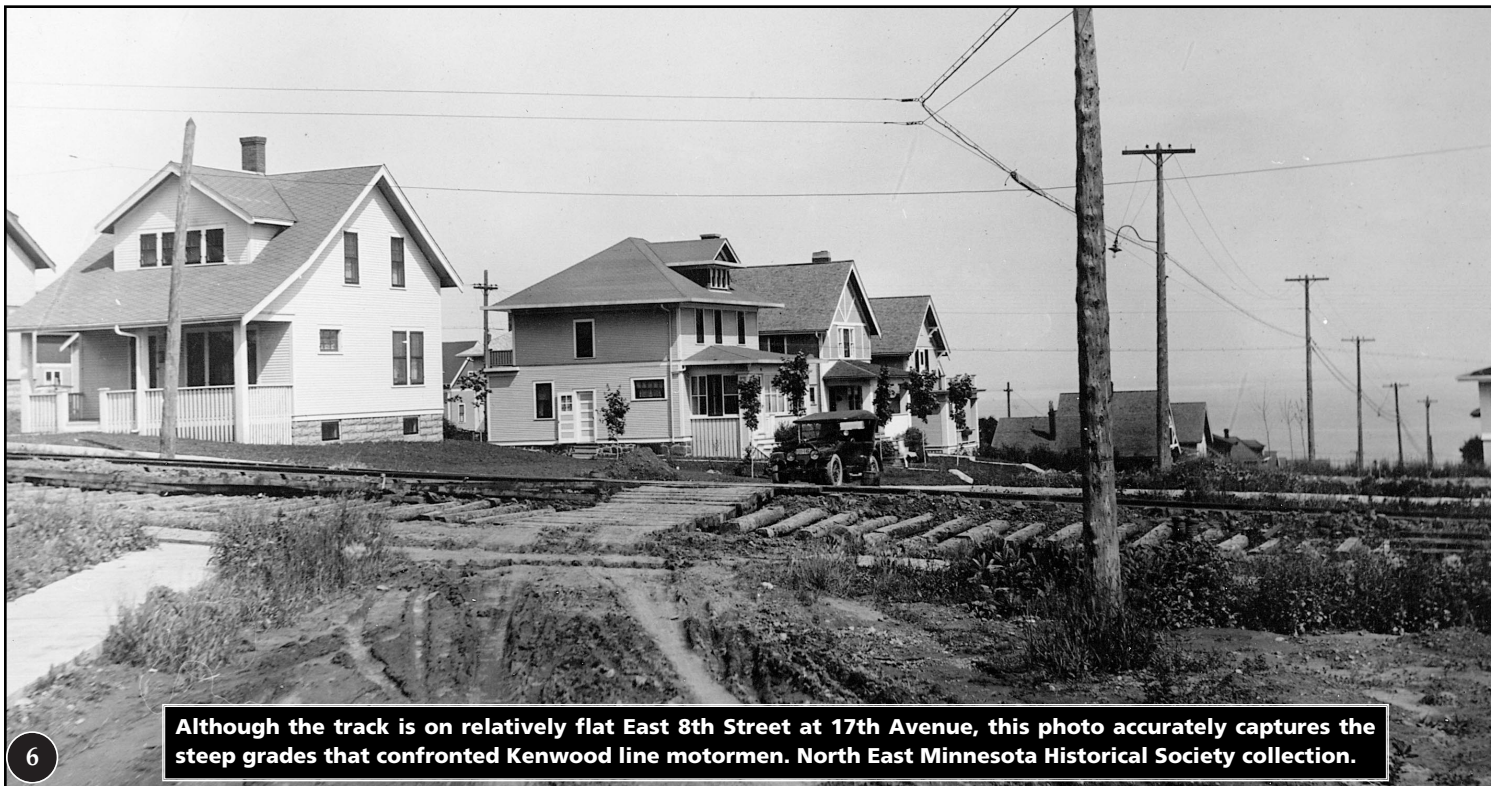




After turning off Superior Street, Woodland cars climbed these four blocks of 24th Avenue East on a 4.7-7.1 percent grade. C. P. Gibson photo, Minnesota Historical Society collection.



A few blocks south of its northern terminal, the Kenwood line drops into the East Branch Creek ravine.



Although the track is on relatively flat East 8th Street at 17th Avenue, this photo accurately captures the steep grades that confronted Kenwood line motormen. North East Minnesota Historical Society collection.

Outstate, apart from Duluth, there was only one notable hill. Main Street in Mankato rose about 60 feet.

Steepness

It's one thing to climb a long gradual hill, but quite another if the hill is steep. Steam railroads were generally limited to about 2 percent (two feet of rise per 100 feet of distance) with extremes of 4 percent found on mountain narrow gauge lines. Streetcars, which usually had all axles powered, were able to handle much steeper hills. The steepest modern adhesion grade was the 12.5 percent on Pittsburgh's Fineview line, which lasted into the 1960s. Of course steep grades are problematic when there is ice and snow. For modern light rail, anything over 5 percent is potentially unreliable when icy. Witness the



As the Kenwood-East 8th Street line zig-zagged down the hill, it found flat ground on the east-west streets. At top is 4th Street at 5th Avenue East, with the West 4th Street line diverging in the foreground. The other photo shows streetcars on 5th Avenue East crossing 3rd Street. In both photos, note how the grade resumes away from the intersections.



concern over the Central Corridor's University Avenue hill behind the state capitol. The original alignment came in at about 5.5 percent. The solution was to eliminate the traffic signal stop at the bottom of the hill, so cars can get a run at it, and lower the grade itself to about 5 percent.

How steep were the grades on Minnesota's streetcar lines? In a old Duluth bus driver rule book, I found a few exact measurements of steepness. Otherwise, I measured elevation changes and distance on USGS topo maps. The elevation changes aren't exact because they are shown only to the nearest ten feet, but that's close enough to make a good estimate.

Not surprisingly, Duluth had the steepest grades in the state. One indicator of the steepness of the Central Hillside neighborhood is the pitch of the 7th Avenue West incline, which ranged from 15 to 25 percent. The steepest streetcar grade in the state was 10.17-10.65 percent on 2nd Avenue East from Superior Street to 2nd Street. This two-block stretch was constructed in late 1936 to provide an alternate route out of downtown for the Woodland line after the Lester Park line on East Superior Street was converted to trolley bus. It lasted until abandonment in 1939.

The longer lived, but less severe grades included:

8.7% 3rd Avenue West from Superior Street to 2nd Street

8.6% 5th Avenue East from 4th Street to 5th Street

7.6% Piedmont Avenue from 1st Street to 8th Street (up to 7.76 percent)

7.1% 6th Avenue East from 5th Street to 7th Street

6.6% 5th Avenue East from 2nd Street to 4th Street

6.5% Kenwood Avenue above 11th Street

6.5% 57th Avenue West from Cody Street to Medina Street

5.7% 7th Avenue East from 7th Street



The final drop to Superior Street was the two blocks of 8.7 percent on 3rd Avenue West. In this 1898 view, a single trucker is descending it, slowed only by hand brakes. Minnesota Historical Society collection.

to 11th Street (up to 7.2 percent)

4.7% 24th Avenue East from Superior Street to 4th Street (up to 7.1 percent)

The proof of St. Paul's hilliness was the construction of cable lines up the Selby and East 7th Street hills, 16 percent and 5 percent respectively. The Selby Tunnel lowered that grade to 7 percent. There were other significant hills in St. Paul.

6.0% St. Clair Avenue from Pleasant Avenue to Avon Street

4.6% Marshall Avenue from the Lake Street bridge to Cretin Avenue

4.3% State Street from Concord Street to Robert Street

4.2% Jackson Street from University Avenue to Mount Airy Street

4.2% Randolph Avenue from Chatsworth Street to Griggs Street

4.2% Old Concord Street where it diverges from New Concord

4.0% Ford Parkway from the Ford Bridge to Cretin Avenue

Most grades in Minneapolis were short and involved streets with a sawtooth profile. The prime examples

are in the vicinity of Minnehaha Creek. The steepest were:

6.0% The 54th Street leg of the 54th and Penn Avenue South wye

5.7% Penn Avenue South from 52nd Street to Minnehaha Creek

5.3% Xerxes Avenue South from 46th Street to 47th Street

4.5% Bryant Avenue South from 49th Street to 50th Street

4.4% Nicollet Avenue from 51st Street to the Minnehaha Creek bridge

4.2% Bloomington Avenue from 49th Street to Minnehaha Creek

4.2% 50th Street from Logan Avenue to Newton Avenue

4.0% Nicollet Avenue from 48th Street to 51st Street

4.0% 50th Street from Xerxes Avenue to Vincent Avenue

The steepest grades in the TCRT system were found in Stillwater.



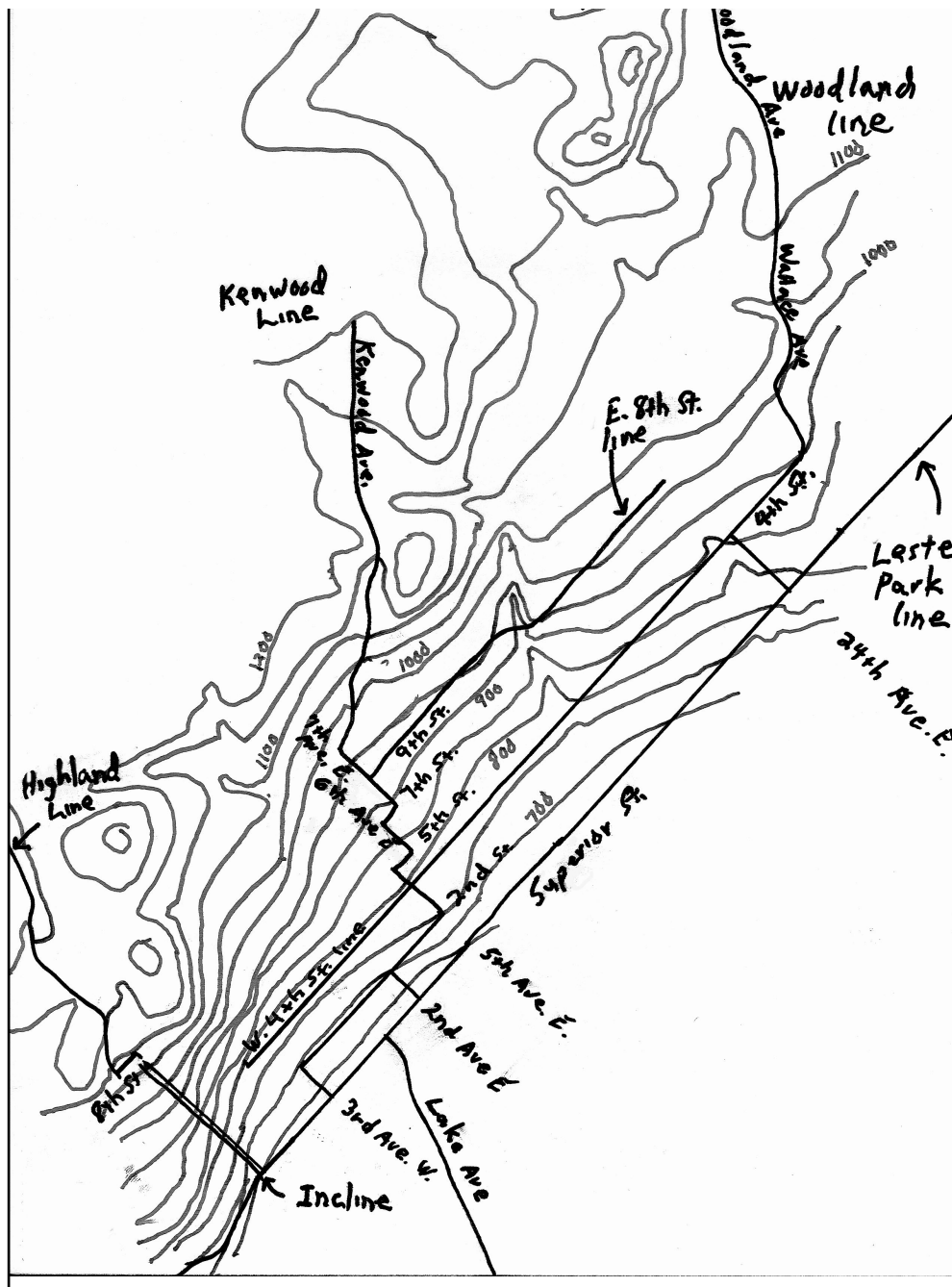
From 1936 to 1939, this 10.65 percent grade on 2nd Avenue East was the steepest in the state.



Streetcars left downtown via Chestnut Street on two blocks of 7.5 percent. The interurbans to St. Paul and the Wilkin Street climbed around the north side of town and faced 5.0-6.6 percent on 4th Street. The Owen Street and Bayport cars climbed South 3rd Street, a 7.5 percent hill.

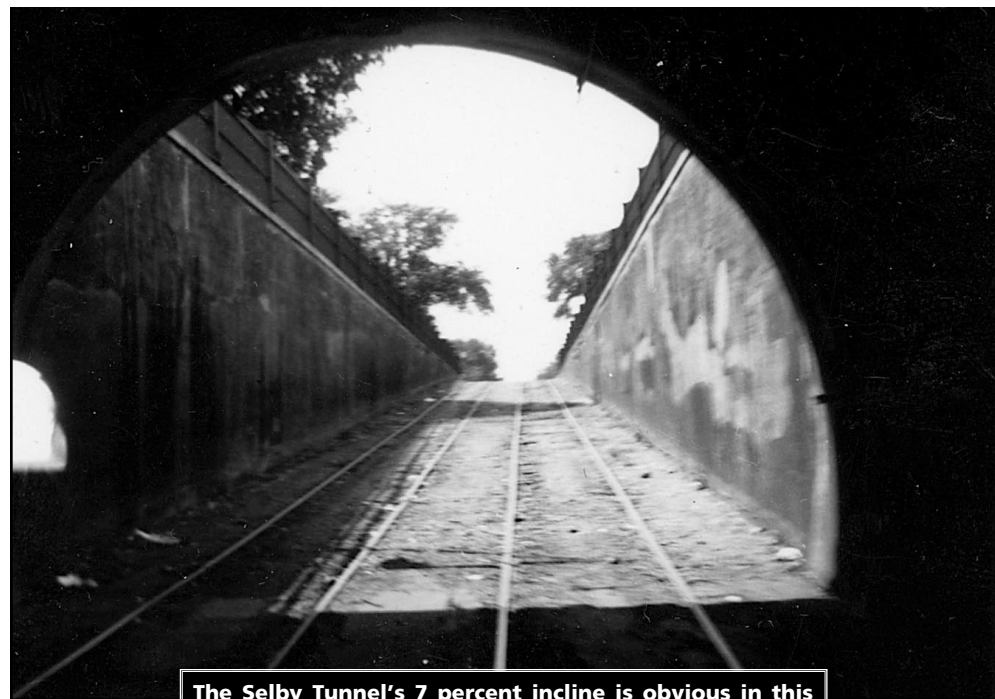
Among the small outstate systems,

only Mankato had any hills to speak of. As far as streetcars were concerned, there was only one challenging grade. The aptly named Hill Line climbed away from downtown near the Minnesota River. On Main Street it rose about 35 feet in the block between 4th and 5th Streets, resulting in a brief stretch of almost 9 percent.

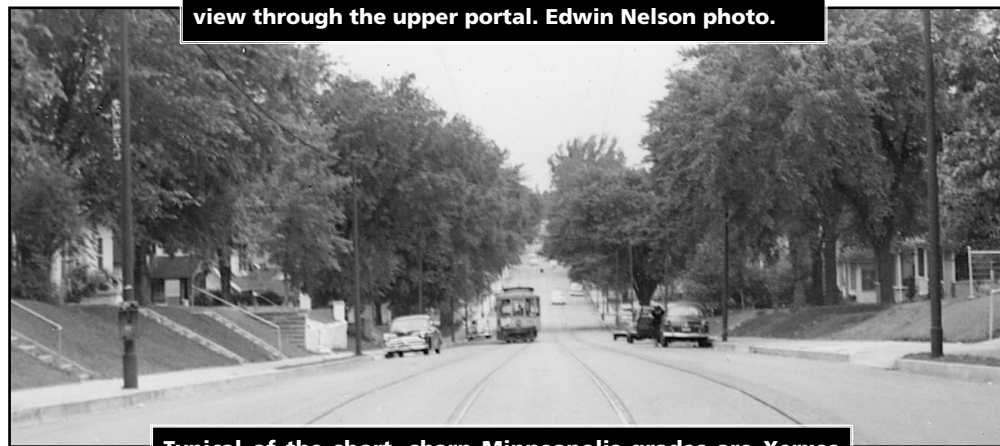


DOWNHILL ALL THE WAY

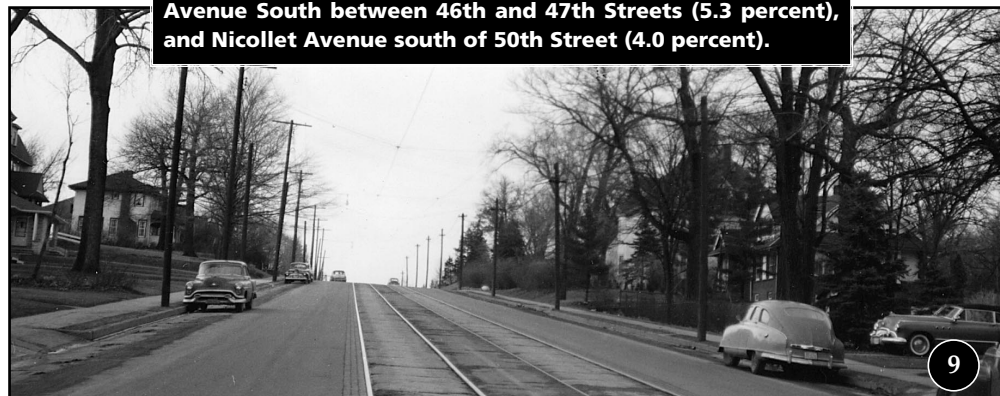
Those of us who operate at Lake Harriet and Excelsior have firsthand knowledge of the importance of air brakes and a feel for their limitations. Stopping a 21-ton streetcar is much

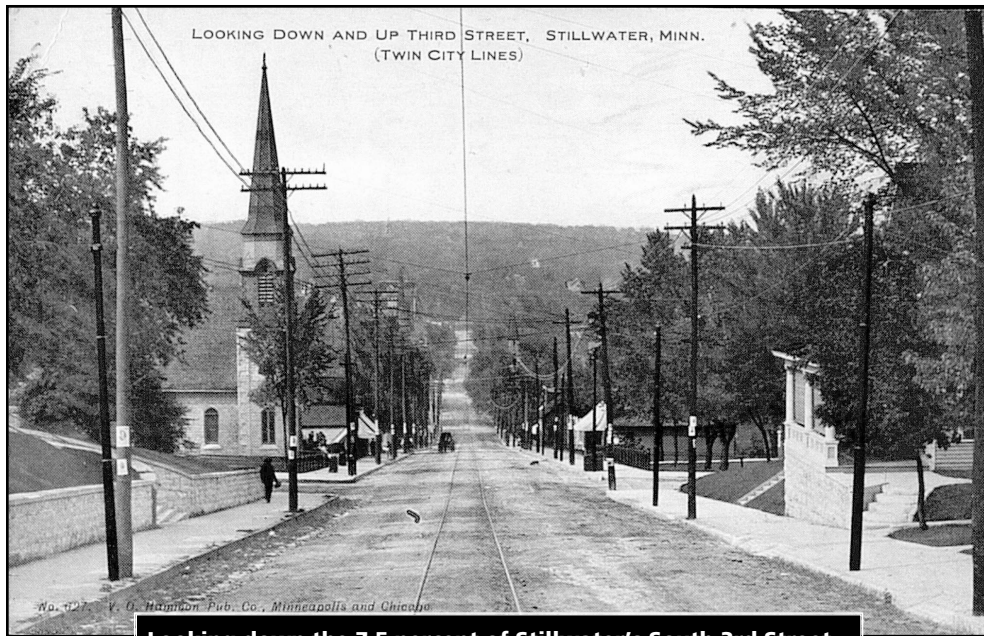


The Selby Tunnel's 7 percent incline is obvious in this view through the upper portal. Edwin Nelson photo.



Typical of the short, sharp Minneapolis grades are Xerxes Avenue South between 46th and 47th Streets (5.3 percent), and Nicollet Avenue south of 50th Street (4.0 percent).





Looking down the 7.5 percent of Stillwater's South 3rd Street.



Among Minnesota's small outstate systems, the only hill of any consequence was this single block of Mankato's Main Street from 4th to 5th Street, which reached almost 9 percent. Minnesota Historical Society collection.



different than your family automobile. As I researched the hills of Duluth, I started to realize what a challenge it must have been to bring one of those great wooden beasts safely from the top of the ridge down to the harbor. The two big hills were on the Woodland and Kenwood lines. Let's imagine a downhill trip on each.

Woodland

The Woodland line dropped farther than Kenwood (750 feet versus 620), but the drop was much gentler, with grades seldom exceeding 4 percent. The trip started out rather level within the suburban Woodland neighborhood.

In 1912, a chartered Stillwater interurban has just turned from Myrtle Street onto the 6 percent of North 4th Street. John Runk photo.

A half mile later the car rolled down a 3.7 slope alongside Tischer Creek for over half a mile before leveling out through the Hunter Park neighborhood. Woodland Avenue angled right and the streetcars continued straight ahead onto Wallace Avenue, which twisted and turned down a 3.1 percent grade for most of the next mile. Angling right onto 4th Street, the cars passed the shortline loop at 27th Avenue East and the grade eased to 2.3 percent for the next mile. After the left turn onto 24th Avenue came the steepest grade on the line, four blocks of 4.7-7.1 percent. It ended at Superior Street, where the Lester Park line entered from the left and the Woodland car turned right for the final leg into downtown. Superior Street descended at 3.8 percent to the crossing of East Branch Creek at 14th Avenue, then leveled off into downtown. None of the Woodland hills were radical, but they were long, and the motorman had to use the air sparingly to maintain enough pressure for the entire trip.

Kenwood

Kenwood must have been four miles of white knuckle adventure. I have no historic documentation of it, but I'll bet some motormen avoided working it. A typical trip from the top of the hill began on level track for a couple of blocks, then sagged into the East Branch Creek ravine, crossed the creek and followed the west bank as it curved past the College of St. Scholastica. Turning away from the creek into a side ravine, it soon tipped over the edge of the hill and the scary part began. It would stay scary all the way downtown.

The grade stiffened to 6.5 percent and remained so for half a mile (imagine half the length of our Como-Harriet Line), ending in a 45 degree left turn onto 7th Avenue East. The next four blocks ranged up to 7.2 percent, and the East 8th Street line entered

from the left. From 7th Avenue, the line would zigzag and stair-step its way down the huge hillside, making seven right-angle turns before reaching the bottom at Superior Street. This was probably done to find the least challenging route, although the topo map shows all the uphill/downhill streets to have similar grades. My theory is that it was also done to reduce the chance of a runaway. The cross-hill streets are level, and each one was a safe place to stop and pump up the air before proceeding.

Thus the track descended 7th Avenue for four blocks, jogged over to 6th Avenue's 7.1 percent grade for two blocks, then 5th Avenue's 6.6-8.6 percent for three blocks. At that point the cars were two blocks above Superior Street and followed the shelf of 2nd Street west for eight blocks, before the final two-block 8.7 percent drop on 3rd Avenue West.

Jim Kreuzberger has spent many years studying the Duluth streetcars, and he was unable to find any operating rules for the hills. He writes, "The only downhill crash I recall was a crushed-rock loaded work car that went out of control down hill on 3rd Avenue West. It destroyed the starters box at the bottom of the hill, no one was injured." He adds, "Piedmont Avenue was a bit more of a concern, because of its grade, and its many curves and blind intersections."

A 1943 Duluth bus operator rulebook calls for 15 mile per hour speed limits on the steepest former trolley hills. When descending the 135 vertical feet through the Selby Tunnel on a 7.0 percent grade, TCRT required an 8-mile per hour speed limit. The Kenwood line was the equivalent of three Selby Tunnels end to end, and much of it was steeper. To put it in perspective, the basements of the houses on the uphill blocks were even with the roofs of their backyard neighbors on the next street down.

Because most of the steep sections

ended abruptly in a 90-degree right turn, the downhill speed couldn't have been much more than ten miles per hour, or how could the motorman have kept it under control? The air compressor must have been hammering continuously, and pausing on the cross-hill streets to build up the air was probably routine. How in the world did they do it in ice and snow?

Even more sobering to contemplate is how they did it before the use of air brakes, which didn't appear until about 1905. Hand brakes apply slower and with less force than air brakes. By that time, the steep grades on 3rd Avenue West, 5th Avenue East and Piedmont Avenue were already in service.

SERVING LAKE MINNETONKA

-Aaron Isaacs

TCRT electric cars ("fast trains" in the company ads) served Lake Minnetonka from late in 1905 until 1932. Its express steamboats connected with those trains from 1906 to 1926. During most of that period TCRT provided a complete transportation package to the lake, including a separate baggage and express service.

Before I researched this article, I thought the train and boat service had been implemented as a total package, and that it continued with few changes until it was discontinued. That view turns out to be much too simplistic. Routes (especially boat routes) and service levels changed over time. Thankfully, many of the original route schedules and maps survive in the MSM archive and at the Minnesota Historical Society, and we can use them to follow the changes in lake service.

It took from 1905 through 1908 to assemble the TCRT Lake Minnetonka system, as follows:

Sept. 30, 1905 Single track to

Excelsior completed

May 15, 1906 Express boat service begins

June 10, 1906 Service started to Deephaven

June 16, 1906 Hopkins branch opened

Oct. 10, 1906 Double track completed to Excelsior

Dec. 1906 TCRT buys fleet of existing excursion boats

May 27, 1906 Informal opening of Big Island Park, featuring 12-minute streetcar frequency, 1 ferry and 2 express boats.

Aug. 5, 1906 Official opening of Big Island Park

1907 Track extended to Manitou Junction, connection to the M&StL Tonka Bay branch

Oct. 1, 1907 TCRT leases Tonka Bay branch

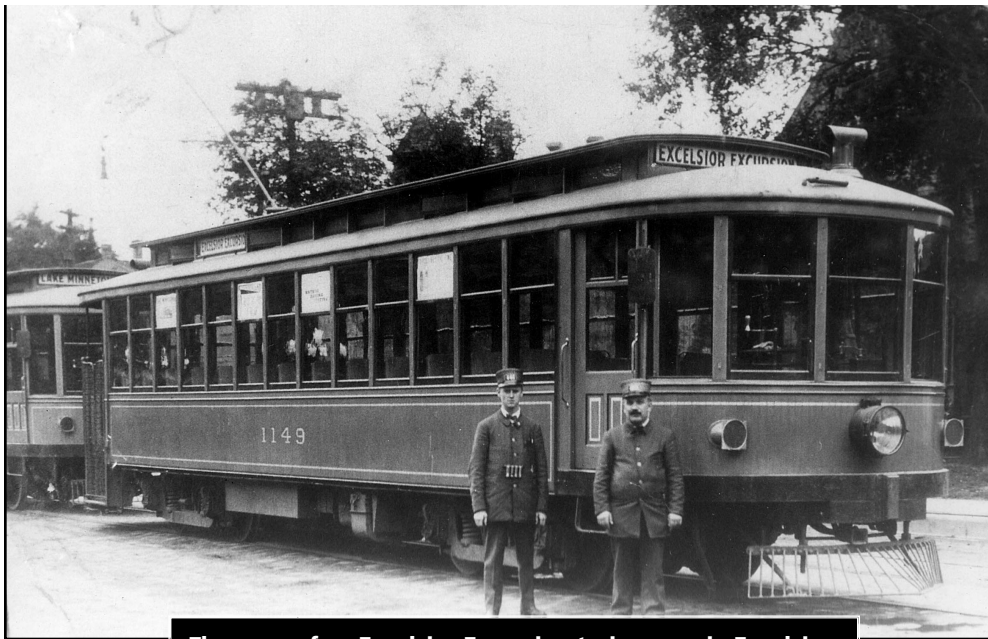
May 9, 1908 Tonka Bay branch with Wildhurst dock opened for service

June 13, 1908 TCRT takes over Tonka Bay Hotel

It appears that the lease and electrification of the Tonka Bay branch represented a last minute change by TCRT. From December 1906 to September 1907, TCRT had purchased right of way and materials to extend a new line from Manitou Junction to Birch Bluff, on the south shore of the lake. Grading took place from September to November 1907, but the extension never built. However, it appears on a couple of publicity brochures from that year. The land for the Wildhurst loop track wasn't purchased until April 1908, a month before it opened, further proof of a late change in plans.

Fast Trains

Once it was double tracked in 1906, the arc-lit "Great White Way" provided fast, frequent service to Lake Minnetonka. For most of the line's life,



The crew of an Excelsior Excursion train poses in Excelsior, in front of one of the scheduled Lake Minnetonka cars.



TCRT's downtown storefront ticket office was located at 17 North 6th Street (arrow), across 6th Street from the Masonic Temple. The sign says "Lake Minnetonka Electric Trains". Both Minnesota Historical Society collection.



the summer Monday-Saturday schedule was a train every half hour to Excelsior, with hourly service beyond to Tonka, and every two hours from Minneapolis to Deephaven.

Sundays were something completely different. This was the era of the six-day work week, with Sunday the only day off. This concentrated recreational trips, and required an Excelsior train every 10 minutes, with 30-minute service to Tonka Bay. Additional Excelsior Excursion sections were added as needed to handle the loads. Hourly service was sufficient for the Deephaven branch.

Four classes of trains ran on the line:

Lake Minnetonka: local service from

EXCELSIOR—WILDHURST—TONKA BAY

Minneapolis to Tonka Bay—21 miles.

Leave Minn'polis	Arrive Excelsior (2nd St.)	Arrive Tonka Bay	Leave Tonka Bay	Leave Excelsior (2nd St.)	Arrive Minn'polis
4:03 AM.	4:45 AM.				
6:03 "	6:45 "	6:55 AM.	7:03 AM.	7:13 AM.	7:55 AM.
L 6:33 "	7:15 "			L 7:43 "	8:25 "
7:03 "	7:45 "	7:55 "	8:03 "	L 8:13 "	8:55 "
7:33 "	8:15 "			L 8:43 "	9:25 "
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11:03 "	12:00 AM.	12:10 AM.	12:18 AM.	12:28 AM.	1:10 AM.

Minneapolis to Deephaven—17 miles

SUNDAYS

Leave Minn'polis	Arrive Deephaven	Leave Deephaven	Arrive Minn'polis	Leave Minn'polis	Leave Deephaven
6:58 A.M.	7:39 A.M.	7:00 A.M.	7:42 A.M.	8:58 A.M.	8:45 A.M.
7:58 "	8:39 "	7:45 "	8:27 "	9:58 "	10:45 "
9:58 "	10:39 "	10:45 "	11:27 "	10:58 "	11:45 "
11:58 "	12:39 P.M.	12:45 P.M.	1:27 P.M.	11:58 "	12:45 P.M.
1:58 P.M.	2:39 "	2:45 "	3:27 "	12:58 P.M.	1:45 "
3:58 "	4:39 "	4:45 "	5:27 "	1:58 "	2:45 "
4:58 "	5:39 "	5:45 "	6:27 "	2:58 "	3:45 "
5:58 "	6:39 "	6:45 "	7:27 "	3:58 "	4:45 "
				4:58 "	5:45 "

Owing to congestion of traffic on Sundays, and Holidays, passengers desiring to make Boat connections at Excelsior, should allow themselves a full hour between Minneapolis and Excelsior, as Boats are despatched promptly on time regardless of arrival of trains.

Leave Minn'polis	Arrive Excelsior	Arrive Tonka Bay	Leave Tonka Bay	Leave Excelsior	Arrive Minn'polis
4:03 AM.	4:45 AM.		7:03 AM.	7:13 AM.	7:55 AM.
6:03 "	6:45 "	6:55 AM.	8:03 "	8:13 "	8:55 "
7:03 "	7:45 "	7:55 "	8:33 "	8:43 "	9:25 "
7:33 "	8:15 "	8:25 "	9:03 "	9:13 "	9:55 "
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L 8:43 "	9:25 "		10:03 "	L 10:03 "	10:45 "
L 8:53 "	9:35 "			L 10:13 "	10:55 "
L 9:03 "	9:45 "	9:55 "		L 10:23 "	11:05 "
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L 9:43 "	10:25 "			L 11:03 "	11:45 "
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LAKE MINNETONKA, run to
Tonka Bay Terminal.

EXCELSIOR LIMITED, run to
2nd St. Excelsior.

EXCELSIOR EXCURSION, run
to Dock Station, Excelsior.

WESTBOUND—Lake Minnetonka
or Deephaven Trains stop only to
receive passengers for points
west of Hopkins at—
Sixth Street
Seventh Street
Twelfth Street
Groveland Ave.
Douglas Ave.
29th Street
Lake Street

A—Lake Harriet Station
Lake Harriet Loop
City Limits
Grimes
Brownedale
Brooksidge
Mendelssohn
Hopkins Sub Station

EASTBOUND—Stop at points
west of Lake St. only to dis-
charge passengers from west of
Hopkins. East of Lake St.
make all local stops to 6th St.

EXCELSIOR LIMITED trains are
indicated thus (L.) These Trains
as well as Excelsior Excursion
Trains make no stops between
Lake Harriet Loop and Dock
Station, Excelsior, except at
Hopkins.

LAKE MINNETONKA Trains
stop at—
9th Ave. (Hopkins)
Deephaven Junction
Glen Lake
Clearspring
Vine Hill
Christmas Lake
Excelsior—Dock Station
“ 1st Street
“ 2nd Street
“ 3rd Street
Manitou
Crescent Beach

B—Wildhurst
Tonka Bay

DEEPAVEN Trains stop at—
9th Ave. (Hopkins)
Deephaven Junction
Baker
Boulevard
Groveland
Breezy Point
Northome
Deephaven

A—Westbound only.
B—Only for Boat connection.

According to Russ Olson's Electric Railways of Minnesota, in the early years it was not uncommon to see five or six sections of a single train, and sometimes as many as 14 or 15

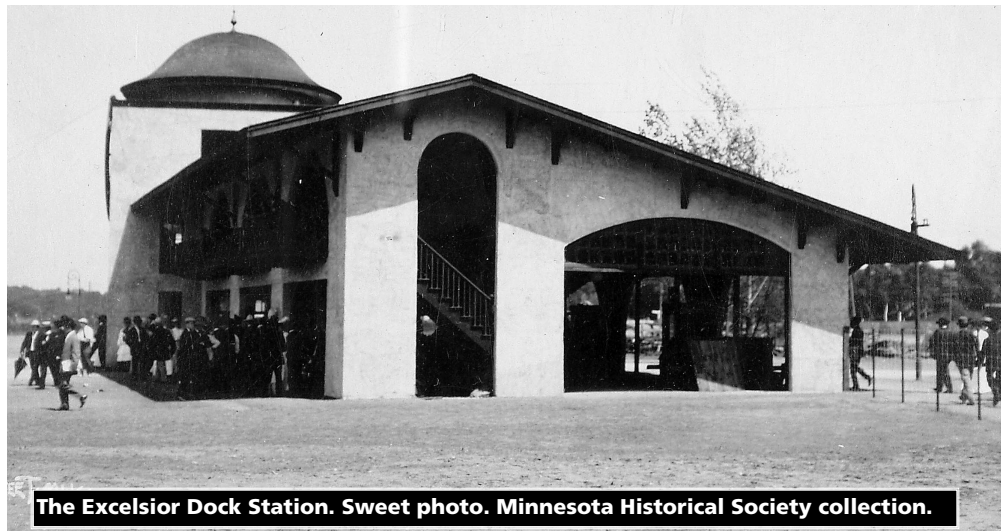
This very rare view at the Deephaven station shows a car arriving from Minneapolis. The steamboat sign is at lower right. This photo reveals that the former Milwaukee Road depot has already been moved up the hill and converted to a house. It remains there today. Greer Nielson collection.

This is a representative train schedule from the early years. Note how much more Sunday service there is.



This is typical of the high speed running west of Hopkins.

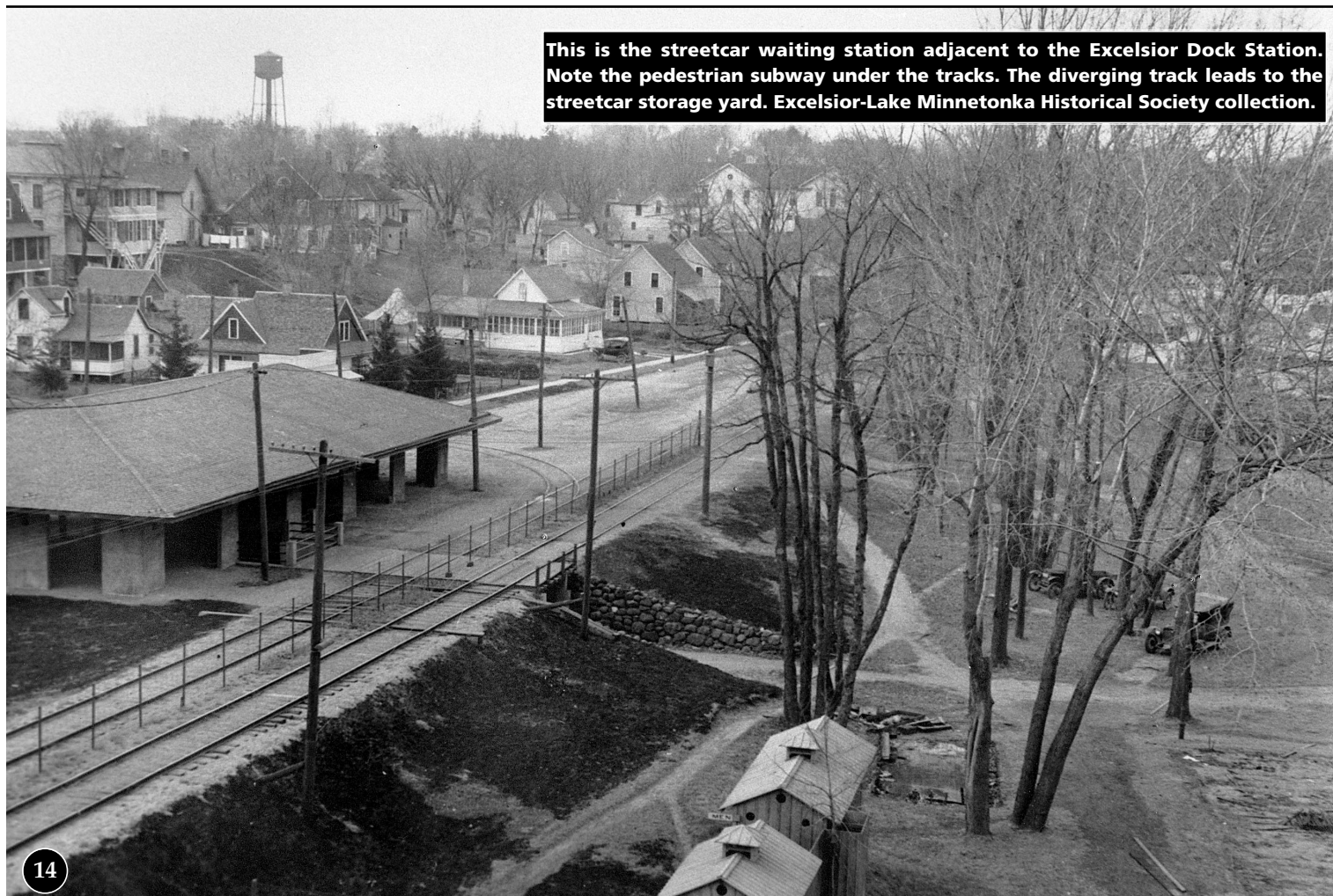




The Excelsior Dock Station. Sweet photo. Minnesota Historical Society collection.



The streetcar storage yard and waiting station. The Excelsior Dock Station is partially visible from the mid to late 1920s, since the amusement park roller coaster is in place. Excelsior-Lake Minnetonka Historical Society collection.



This is the streetcar waiting station adjacent to the Excelsior Dock Station. Note the pedestrian subway under the tracks. The diverging track leads to the streetcar storage yard. Excelsior-Lake Minnetonka Historical Society collection.

sections. There could be as many as 60 cars on the line at once, and the Excelsior storage yard had room for about 40 cars. Despite these extremely heavy loads, there was no use of trailers or multiple unit trains. The three experimental double deckers could carry more passengers, but they were apparently not successful and were withdrawn and converted to conventional single deck cars after a short time.

Because travel to lake Minnetonka was highly seasonal, the winter weekday schedule was considerably less frequent—hourly to Excelsior, six daily round trips to Tonka Bay, and four to Deephaven.

Overall travel time from Minneapolis to Excelsior Dock Station was 45 minutes, an average speed of 23 miles per hour. However, that average disguises the difference between the speed within Minneapolis, compared to the much faster running outside the city. Here is the speed by segment:

These speeds may seem slow, but remember that they represent an average that includes passenger boarding, acceleration and deceleration. The 11.9 mph from downtown to Lake Street is typical of a local Metro Transit bus today. Despite



beyond the streetcar station. This photo dates Minnetonka Historical Society collection.

the difference in the number of stops for the different types of local and limited service, all Excelsior trains had the same end-to-end running time.

The one part of the schedule that seems counterintuitive is the 42.5 miles per hour on the Deephaven branch. Its track wasn't maintained to the 60 mile per hour standard of the Hopkins-Excelsior main line, yet the average speed is faster. One can only surmise that Deephaven trains made few intermediate stops.

In Minneapolis, the Lake Minnetonka trains left Hennepin Avenue at 7th Street, looped around the block via 7th, 1st Avenue North and 6th Street, and took their layover at the storefront ticket office at 17 North 6th Street, between 1st Avenue North and Hennepin Avenue. That arrangement lasted until 1928, when the ticket office was relocated to the bus depot at 7th Street and 1st Avenue North. To reach it, the downtown loop was changed to Hennepin, 11th Street, 1st Avenue North, 6th Street and Hennepin.

Big Island Ferries

Three large double decked, double ended, side paddle wheel ferries were built to connect the Excelsior Dock

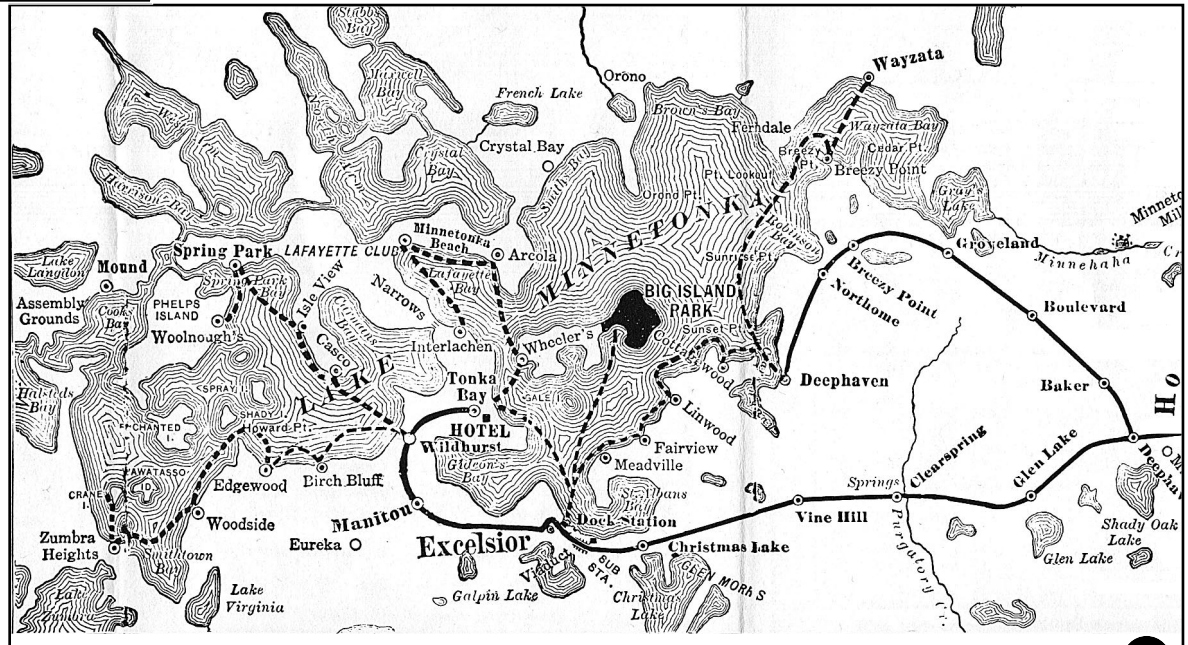
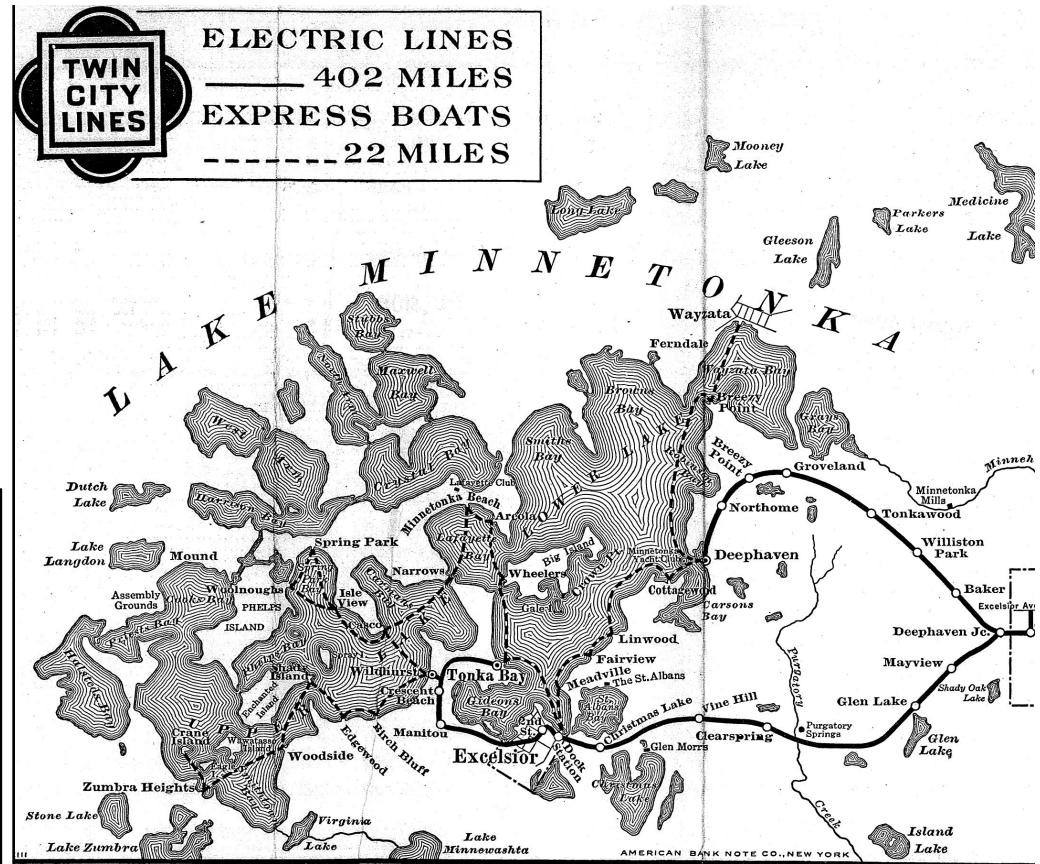
Minnetonka 1 - left

This map shows the express boat routes as they were before 1912, when each ran separately with an assigned boat.

Minnetonka 2 - below

This map shows the express boat routes as they were beginning in 1912, when each boat covered the entire lake, replacing the separate fleet of excursion boats.

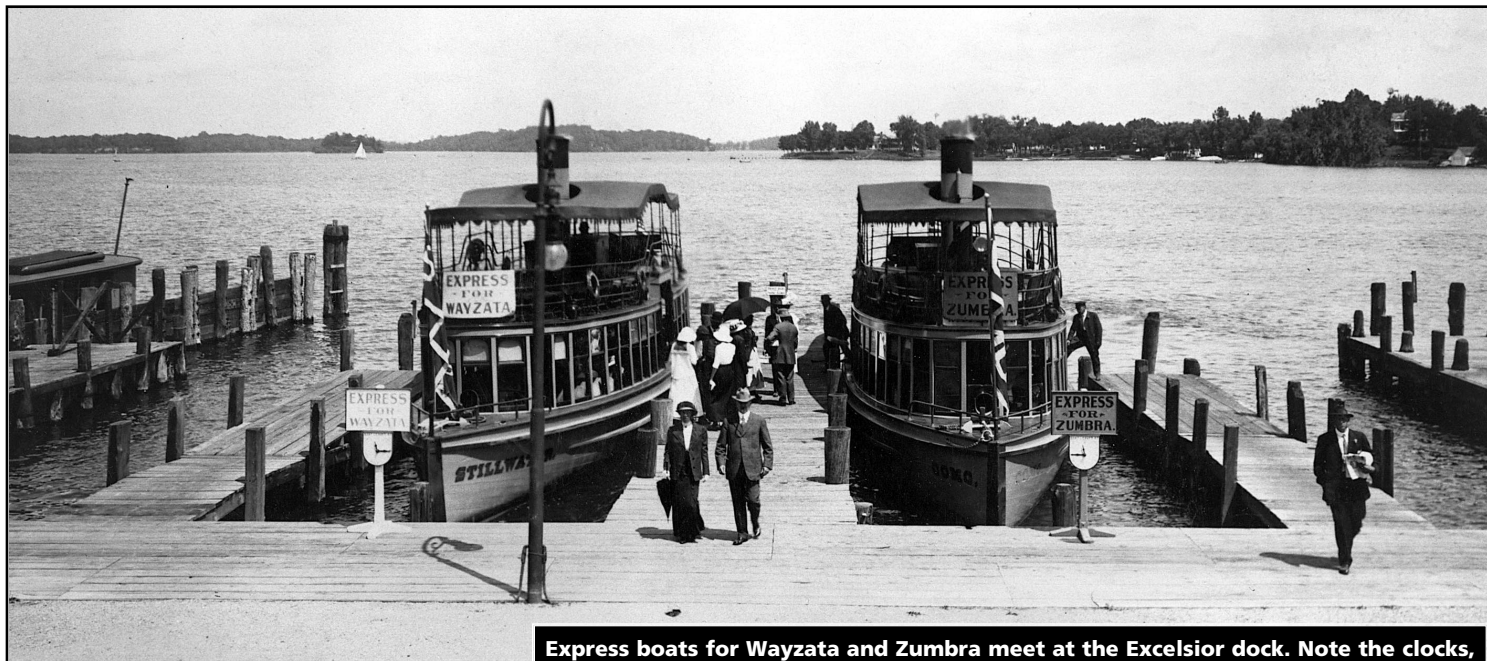
Station with Big Island Park. Named Minneapolis, St. Paul and Minnetonka, each could hold 1000 passengers. A one-way trip took 20 minutes. One ferry covered the weekday base hourly schedule. The base frequency on Sundays was every 30 minutes with two ferries running. On busy Sundays the third ferry was placed in service and departures were every 20 minutes. Express boats didn't stop at Big Island, except for a 10 PM cleanup run



HOW TO SEE MINNETONKA IN 3, 4, 5, 6 OR 7 HOURS FROM MINNEAPOLIS

ROUND TRIP FROM MINNEAPOLIS		CAR FARES	BOAT FARES	LEAVE SIXTH STREET STATION MINNEAPOLIS	CONNECT WITH BOAT	EXPRESS BOAT TRIP ON LAKE MINNETONKA	TIME ON BOAT	CONNECT WITH TRAIN	ARRIVE SEVENTH STREET MINNEAPOLIS
TIME	FARE								
3 Hours	70 Cents	50 Cents	20 Cents	6:00 AM. or Any Hour to 6:00 PM.	At Wildhurst	To Zumbra Heights and Return	1 Hours	At Wildhurst	8:54 AM. or Any Hour to 8:54 PM.
3 "	70 "	50 "	20 "	" " " " " " " " "	" "	" Excelsior, One Way	1 "	" Excelsior	" " " " " "
3 "	70 "	50 "	20 "	" " " " " " " " "	" Excelsior	" Wildhurst, One Way	1 "	" Wildhurst	" " " " " "
3½ "	70 "	50 "	20 "	6:30 AM. " " " " 5:30 PM.	" "	" Wayzata and Return	2 "	" Excelsior	9:54 AM. " " " "
4 "	80 "	50 "	30 "	6:00 AM. " " " " 5:00 PM.	Wildhurst	" Zumbra, then to Excelsior	2 "	" "	" " " " " "
4 "	80 "	50 "	30 "	" " " " " " " " "	Excelsior	" " " " Wildhurst	2 "	" Wildhurst	" " " " " "
5 "	80 "	50 "	30 "	6:00 AM. " " " " 4:00 PM.	Wildhurst	" Wayzata " " Excelsior	3 "	" Excelsior	10:54 AM. " " " "
6 "	90 "	50 "	40 "	" " " " " " " " "	" "	" Zumbra, to Wayzata, to Excelsior	4 "	" "	11:54 AM. " " " "
7 "	\$1.00	50 "	50 "	" " " " " " 2:00 PM.	Excelsior	" " " " " " " "	5½ "	" "	12:54 PM. " " " "

This table describes some of the Lake Minnetonka tours that could be done using the express boats and trains.



Express boats for Wayzata and Zumbra meet at the Excelsior dock. Note the clocks, which show departures at 11:17 and 11:47. Minnesota Historical Society collection.

on Sundays. The ferries and Big Island Park lived a short existence, from 1906 to 1911. Ultimately the business could not be sustained on summer Sundays alone.

The Express Boats

The changes to the steamboat service over time are too complex to relate here. To simplify it, there were basically three distinct periods to the connections:

1. All boats start from Excelsior docks: 1905-1907
2. Boats split between Excelsior and Wildhurst docks: 1908-1912
3. Continuous routing: 1913-1920

Aug. 28, 1911

June 14, 1915
Sept. 10, 1923
Sept 15? 1926
May 28, 1928

Aug. 11, 1932

Big Island Park & Tonka Bay Hotel close
Express boat Excelsior launched
Baggage car service ends
express boat service ends
downtown ticket office closed,
moved to Greyhound bus depot
Track cut back to Hopkins

1. All boats start from Excelsior docks: 1905-1907

All four boat routes met the streetcars at the Excelsior Dock Station. The Wayzata route ran hourly and required two boats. Single boats held down the shorter Minnetonka Beach and Spring Park routes, where one boat could make a one hour round trip. Like Wayzata, the longer Zumbra Heights route required two boats, leaving no spares to cover a breakdown.

In addition to the main connection at the Excelsior Dock Station, two other streetcar-boat connections were possible. Hourly streetcars arrived at Deephaven at 39 minutes after the hour and left for Minneapolis at 45 minutes past. The Excelsior-Wayzata boat and its Wayzata-Excelsior counterpart both were scheduled at Deephaven at 45 past the hour. This permitted a Minneapolis-Wayzata trip via Deephaven in 67 minutes versus 92 minutes via Excelsior and similarly shortened the trip to the other docks on the Wayzata line. One could also make a continuous circle trip via the Deephaven line, boat to Excelsior and Excelsior line back to Minneapolis.

Boats and trains also connected at the Tonka Bay Hotel, although these were not conveniently timed as were the others.

2. Boats split between Excelsior and Wildhurst docks: 1908-1912

In 1907 TCRT leased the Minneapolis & St. Louis Tonka Bay



Here are earlier (ca. 1908) and later (ca. 1920) views of the Spring Park dock, which seems to have been replaced during that time. In the earlier photo, the boat would have shuttled all day between Wildhurst and the Hotel del Otero at Spring Park. In the later view, the boat is making a lengthy circuit of the entire lake. Bottom: Minnesota Historical Society collection.

Miles	MPH	From	To
2.6	11.9	6th & Hennepin	Lake Street
1.7	14.5	Lake Street	Lake Harriet-42nd Street
5.2	28.4	Lake Harriet-42nd Street	Hopkins, 9th Avenue
8.4	36.1	Hopkins, 9th Avenue	Excelsior Dock Station
3.4	20.4	Excelsior Dock Station	Tonka Bay, via Wildhurst
7.1	42.5	Hopkins, 9th Avenue	Deephaven

branch line, to reach their newly acquired Tonka Bay Hotel. They also built a short spur to the lakeshore at Wildhurst, where they built a new steamboat dock. From 1908 until 1911, boats operating the two Upper Lake routes connected with streetcars only at Wildhurst, instead of running through the Narrows to Excelsior. This saved considerable travel time and reduced the boat requirement from six to five, so now there was always a spare boat. Because the Tonka Bay trains ran hourly, the two Upper Lake boat routes converged on Wildhurst at the same time.

The two Lower Lake routes met the trains at Excelsior, but not the same

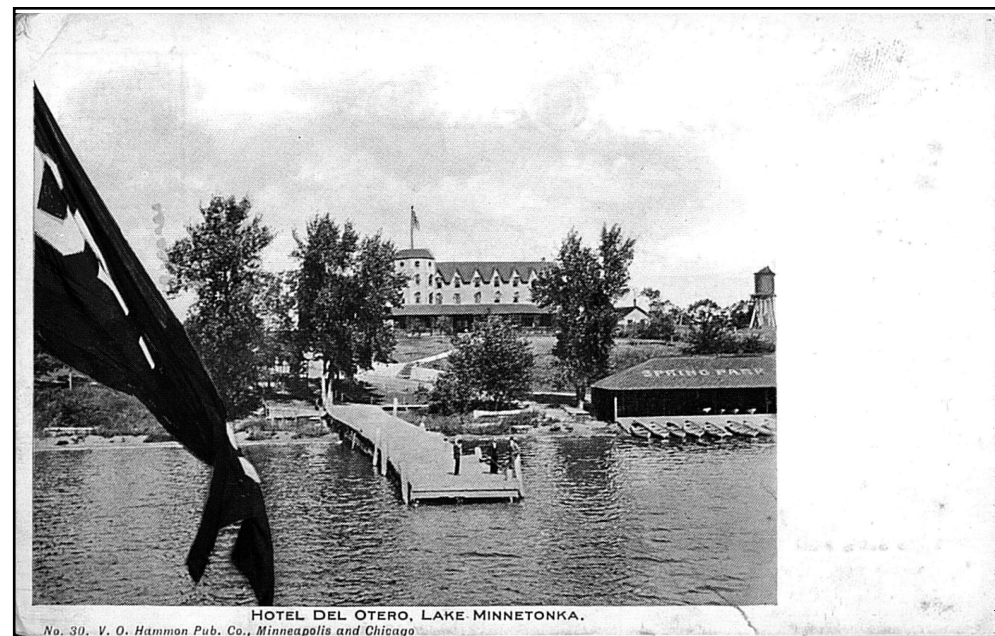
train. Train frequency was every 30 minutes. The train arriving at 13 past the hour fed the Wayzata boat. The train arriving at 43 past the hour fed the Minnetonka Beach boat. Presumably this was done to spread out the crowds. Of course, on summer Sundays the trains increased to every ten minutes. Many of these were undoubtedly timed to feed the Big Island ferries, which ran every 20 minutes at heavy times.

Even though Tonka Bay was now served by streetcar, it had been connected to Excelsior by express boat since 1906. The boat was actually a minute or two faster to Excelsior than the streetcar, because the water

distance was considerably shorter. The boat and the streetcar left Excelsior at the same time, but were a half hour apart on the way back, so the effective Tonka Bay- Excelsior frequency was every 30 minutes.

3. Continuous routing: 1913-1926

Big Island Park closed at the end of the 1911 season, along with the Tonka Bay Hotel. As part of this major retrenchment, TCRT also decommissioned its Big Island three ferries and its four older steamboats (Excelsior, Puritan, Priscilla and Mayflower), which had operated lake tours separate from the express boats. The fixed-route, scheduled express boats kept running, but TCRT devised an ingenious way to also use them for longer lake tours. Unlike earlier years, when an individual boat ran the same route all day, each boat now ran the entire route structure sequentially. Stay on the same boat long enough and you'd see the whole lake. It was some kind of scheduling masterpiece that made this possible while still hitting the streetcar connections in both



HOTEL DEL OTERO, LAKE MINNETONKA.
No. 39, V. O. Hammon Pub. Co., Minneapolis and Chicago

FAST LAKE MINNETONKA EXPRESS BOAT SERVICE

Connects with Deephaven Trains.		WEEKDAYS												EXCELSIOR, DEEPHAVEN AND WAYZATA — LOWER LAKE DIVISION												SUNDAYS											
MILES		2		1		2		1		2		1		2		1		2		1		2		1		2		1		2							
Leave	Excelsior	.00	6:43	6:30	7:15	8:15	9:15	10:15	11:15	12:15	1:15	2:15	3:15	4:15	5:15	6:15	.....	8:15	9:15	10:15	11:15	12:15	1:15	2:15	3:15	4:15	5:15	6:15	.....	.....							
"	Meadville	.46	6:51	6:38	7:18	8:18	9:18	10:18	11:18	12:18	1:18	2:18	3:18	4:18	5:18	6:18	.....	8:18	9:18	10:18	11:18	12:18	1:18	2:18	3:18	4:18	5:18	6:18	.....	.....							
"	Fairview	1.41	6:56	6:38	7:23	8:23	9:23	10:23	11:23	12:23	1:23	2:23	3:23	4:23	5:23	6:23	.....	8:23	9:23	10:23	11:23	12:23	1:23	2:23	3:23	4:23	5:23	6:23	.....	.....							
"	Linwood	1.95	7:00	6:42	7:27	8:27	9:27	10:27	11:27	12:27	1:27	2:27	3:27	4:27	5:27	6:27	.....	8:27	9:27	10:27	11:27	12:27	1:27	2:27	3:27	4:27	5:27	6:27	.....	.....							
"	Cottagewood	3.52	.....	6:53	7:38	8:38	9:38	10:38	11:38	12:38	1:38	2:38	3:38	4:38	5:38	6:38	.....	8:38	9:38	10:38	11:38	12:38	1:38	2:38	3:38	4:38	5:38	6:38	.....	.....							
"	Deephaven	3.99	.....	7:00	7:45	8:45	9:45	10:45	11:45	12:45	1:45	2:45	3:45	4:45	5:45	6:45	.....	8:45	9:45	10:45	11:45	12:45	1:45	2:45	3:45	4:45	5:45	6:45	.....	.....							
"	Breezy Point	6.06	.....	7:13	7:58	8:58	9:58	10:58	11:58	12:58	1:58	2:58	3:58	4:58	5:58	6:58	.....	8:58	9:58	10:58	11:58	12:58	1:58	2:58	3:58	4:58	5:58	6:58	.....	.....							
Arrive	Wayzata	7.16	.....	7:20	8:05	9:05	10:05	11:05	12:05	1:05	2:05	3:05	4:05	5:05	6:05	7:05	.....	9:05	10:05	11:05	12:05	1:05	2:05	3:05	4:05	5:05	6:05	7:05	.....	.....							
Leave	Wayzata	.00	.....	7:20	8:20	9:20	10:20	11:20	12:20	1:20	2:20	3:20	4:20	5:20	6:20	7:20	.....	9:20	10:20	11:20	12:20	1:20	2:20	3:20	4:20	5:20	6:20	7:20	.....	.....							
"	Breezy Point	1.10	.....	7:27	8:27	9:27	10:27	11:27	12:27	1:27	2:27	3:27	4:27	5:27	6:27	7:27	.....	9:27	10:27	11:27	12:27	1:27	2:27	3:27	4:27	5:27	6:27	7:27	.....	.....							
"	Deephaven	3.17	.....	7:45	8:45	9:45	10:45	11:45	12:45	1:45	2:45	3:45	4:45	5:45	6:45	7:45	.....	9:45	10:45	11:45	12:45	1:45	2:45	3:45	4:45	5:45	6:45	7:45	.....	.....							
"	Cottagewood	3.64	.....	7:49	8:49	9:49	10:49	11:49	12:49	1:49	2:49	3:49	4:49	5:49	6:49	7:49	.....	9:49	10:49	11:49	12:49	1:49	2:49	3:49	4:49	5:49	6:49	7:49	.....	.....							
"	Linwood	5.21	6:58	7:58	8:58	9:58	10:58	11:58	12:58	1:58	2:58	3:58	4:58	5:58	6:58	7:58	.....	9:58	10:58	11:58	12:58	1:58	2:58	3:58	4:58	5:58	6:58	7:58	.....	.....							
"	Fairview	5.75	7:03	8:03	9:03	10:03	11:03	12:03	1:03	2:03	3:03	4:03	5:03	6:03	7:03	8:03	.....	10:03	11:03	12:03	1:03	2:03	3:03	4:03	5:03	6:03	7:03	8:03	.....	.....							
"	Meadville	6.70	7:06	8:06	9:06	10:06	11:06	12:06	1:06	2:06	3:06	4:06	5:06	6:06	7:06	8:06	.....	10:06	11:06	12:06	1:06	2:06	3:06	4:06	5:06	6:06	7:06	8:06	.....	.....							
Arrive	Excelsior	7.16	7:10	8:10	9:10	10:10	11:10	12:10	1:10	2:10	3:10	4:10	5:10	6:10	7:10	8:10	.....	10:10	11:10	12:10	1:10	2:10	3:10	4:10	5:10	6:10	7:10	8:10	.....	.....							
EXCELSIOR AND MINNETONKA BEACH — LOWER LAKE DIVISION																																					
MILES		3		3		3		3		3		3		3		3		3		3		3		3		3		3		3							
Leave	Excelsior	.00	6:45	7:45	8:45	9:45	10:45	11:45	12:45	1:45	2:45	3:45	4:45	5:45	6:45	.....	8:45	9:45	10:45	11:45	12:45	1:45	2:45	3:45	4:45	5:45	6:45	.....	.....								
"	Tonka Bay	1.10	6:53	7:53	8:53	9:53	10:53	11:53	12:53	1:53	2:53	3:53	4:53	5:53	6:53	.....	8:53	9:53	10:53	11:53	12:53	1:53	2:53	3:53	4:53	5:53	6:53	.....	.....								
"	Wheeler's	1.85	6:58	7:58	8:58	9:58	10:58	11:58	12:58	1:58	2:58	3:58	4:58	5:58	6:58	.....	8:58	9:58	10:58	11:58	12:58	1:58	2:58	3:58	4:58	5:58	6:58	.....	.....								
"	Arcola	2.72	7:01	8:01	9:01	10:01	11:01	12:01	1:01	2:01	3:01	4:01	5:01	6:01	7:01	.....	9:01	10:01	11:01	12:01	1:01	2:01	3:01	4:01	5:01	6:01	7:01	.....	.....								
Arrive	Minnetonka Beach	3.22	7:03	8:03	9:03	10:03	11:03	12:03	1:03	2:03	3:03	4:03	5:03	6:03	7:03	.....	9:03	10:03	11:03	12:03	1:03	2:03	3:03	4:03	5:03	6:03	7:03	.....	.....								
Leave	Interlachen	.00	7:10	.....	.....	10:10	.....	.....	.....	2:10	.....	.....	.....	6:10	.....	.....	9:10	10:10	.....	.....	.....	2:10	.....	.....	.....	.....	.....	7:10	.....	.....							
"	Minnetonka Beach	.00	7:15	8:15	9:15	10:15	11:15	12:15	.....	1:15	2:15	3:15	4:15	5:15	6:15	7:15	.....	9:15	10:15	11:15	12:15	.....	1:15	2:15	.....	.....	.....	7:15	.....								
"	Arcola	.50	7:18	8:18	9:18	10:18	11:18	12:18	1:18	2:18	3:18	4:18	5:18	6:18	7:18	.....	9:18	10:18	11:18	12:18	1:18	2:18	3:18	4:18	5:18	6:18	7:18	.....	.....								
"	Wheeler's	1.37	7:22	8:22	9:22	10:22	11:22	12:22	1:22	2:22	3:22	4:22	5:22	6:22	7:22	.....	9:22	10:22	11:22	12:22	1:22	2:22	3:22	4:22	5:22	6:22	7:22	.....	.....								
"	Tonka Bay	2.12	7:27	8:27	9:27	10:27	11:27	12:27	1:27	2:27	3:27	4:27	5:27	6:27	7:27	.....	9:27	10:27	11:27	12:27	1:27	2:27	3:27	4:27	5:27	6:27	7:27	.....	.....								
Arrive	Excelsior	3.22	7:37	8:37	9:37	10:37	11:37	12:37	1:37	2:37	3:37	4:37	5:37	6:37	7:37	.....	9:37	10:37	11:37	12:37	1:37	2:37	3:37	4:37	5:37	6:37	7:37	.....	.....								
WILDHURST AND SPRING PARK — UPPER LAKE DIVISION																																					
MILES		4		5		4		5		4		5		4		5		4		5		4		5		4		5		4							
Leave	Wildhurst	.00	AM.	AM.	AM.	AM.	AM.	AM.	AM.	PM.	PM.	PM.	PM.	PM.	PM.	.....	AM.	AM.	AM.	AM.	AM.	PM.	PM.	PM.	PM.	PM.	PM.	PM.	PM.	.....							
"	Casco	.75	.....	7:03	8:03	9:03	10:03	11:03	12:03	12:52	1:52	2:52	3:52	4:52	5:52	6:52	.....	8:03	9:03	10:03	11:03	12:03	1:03	2:03	3:03	4:03	5:03	6:03	7:03	.....							
"	Isle View	1.88	.....	7:09	8:09	9:09	10:09	11:09	12:09	12:58	1:58	2:58	3:58	4:58	5:58	6:58	.....	8:09	9:09	10:09	11:09	12:09	1:09	2:09	3:09	4:09	5:09	6:09	7:09	.....							
Arrive	Spring Park	2.78	.....	7:14	8:14	9:14	10:14	11:14	12:14	1:03	2:03	3:03	4:03	5:03	6:03	7:03	.....	8:14	9:14	10:14	11:14	12:14	1:14	2:14	3:14	4:14	5:14	6:14	7:14	.....							
Arrive	Woolnough's	3.38	.....	7:19	8:19	9:19	10:19	11:19	12:19	1:08	2:08	3:08	4:08	5:08	6:08	7:08	.....	8:19	9:19	10:19	11:19	12:19	1:19	2:19	3:19	4:19	5:19	6:19	7:19	.....							
Leave	Woolnough's	.00	6:42	7:42	8:42	9:42	10:42	11:42	12:31	1:31	2:31	3:31	4:31	5:31	6:31	7:31	.....	8:42	9:42	10:42	11:42	12:42	1:42	2:42	3:42	4:42	5:42	6:42	7:31	.....							
"	Spring Park	.60	6:47	7:47	8:47	9:47	10:47	11:47	12:36	1:36	2:36	3:36	4:36	5:36	6:36	7:36	.....	8:47	9:47	10:47	11:47	12:47	1:47	2:47	3:47	4:47	5:47	6:47	7:36	.....							
"	Isle View	1.60	6:52	7:52	8:52	9:52	10:52	11:52	12:41	1:41	2:41	3:41	4:41	5:41	6:41	7:41	.....	8:52	9:52	10:52	11:52	12:52	1:52	2:52	3:52	4:52	5:52	6:52	7:41	.....							
"	Casco	2.63	6:57	7:57	8:57	9:57	10:57	11:57	12:46	1:46	2:46	3:46	4:46	5:46	6:46	7:46	.....	8:57	9:57	10:57	11:57	12:57	1:57	2:57	3:57	4:57	5:57	6:57	7:46	.....							
Arrive	Wildhurst	3.38	7:03	8:03	9:03	10:03	11:03	12:03	12:52	1:52	2:52	3:52	4:52	5:52	6:52	7:52	.....	9:03	10:03	11:03	12:03	1:03	2:03	3:03	4:03	5:03	6:03	7:03	7:52	.....							
WILDHURST AND ZUMBRA HEIGHTS — UPPER LAKE DIVISION																																					
MILES		5		4		5		4		5		4		5		4		5		4		5		4		5		4		5							
Leave	Wildhurst	.00	AM.	AM.	AM.	AM.	AM.	AM.	PM.	PM.	PM.	PM.	PM.	PM.	PM.	.....	AM.	AM.	AM.	AM.	AM.	PM.	PM.	PM.	PM.	PM.	PM.	PM.	PM.	.....							
"	Birch Bluff	1.00	.....	7:03	8:03	9:03	10:03	11:03	12:03	1:03	1:52	2:52	3:52	4:52	5:52	6:52	.....	8:03	9:03	10:03	11:03	12:03	1:03	2:03	3:03	4:03	5:03	6:03	7:03	.....							
"	Edgewood	1.50	.....	7:13	8:13	9:13	10:13	11:13	12:13	1:13	2:02	3:02	4:02	5:02	6:02	7:02	.....	8:13	9:13	10:13	11:13	12:13	1:13	2:13	3:13	4:13	5:13	6:13	7:13	.....							
"	Shady Island	2.20	.....	7:17	.....	9:17	.....	11:17	12:17	1:17	.....	3:06	.....	5:06	6:06	7:06	.....	8:17	9:17	.....	11:17	12:17	.....	2:17	3:17	.....	5:17	.....	7:17	.....							
"	Woodside	3.08	.....	7:20	.....	9:20	.....	11:20	12:20	1:20	.....	3:09	.....	5:09	6:09	7:09	.....	8:20	9:20	.....	11:20	12:20	.....	2:20	3:20	.....	5:20	.....	7:20	.....							
Arrive	Zumbra Heights	4.48	.....	7:28	.....	9:28	10:28	11:28	12:28	1:28	2:17	3:17	4:17	5:17	6:17	7:17	.....	8:28	9:28	10:28	11:28	12:28	1:28	2:28	3:28	4:28	5:28	6:28	7:28	.....							
Arrive	Crane Island	5.11	.....	.....	.....	.....	.....	.....	12:32	.....	.....	.....	.....	6:21	.....	.....	.....	8:32	.....	.....	.....	.....	.....	.....	.....	.....	.....	7:3									

Boats stop at any of the above Docks to receive or discharge passengers, only on signal.

* Indicates Private Dock, at which Picnic Parties and the Public generally are not permitted to land.

Prior to 1912, each of the four express boat routes was run separately and with assigned boats.



At two points in time, express boats meet at Wildhurst. In the top view, taken about 1908, the boats are shuttling to Spring Park and Zumbra Heights, and haven't yet received their upper deck canopies. In the bottom, one is headed up the lake to Zumbra, the other to Spring park, then through the Narrows to Minnetonka Beach, Excelsior and ultimately Wayzata. Sweet photo, Minnesota Historical Society collection.



directions at Excelsior, Deephaven and Wildhurst.

This required passing through the Narrows once again to access the Upper Lake. That extra distance increased the boat requirement from five to six. That eliminated the spare boat. After two seasons without a spare, TCRT in 1915 built the express boat Excelsior, recycling the name of one of the now-gone excursion boats.

In a way that's hard to describe, the new schedule with the extra boat doubled the service to a few docks. On the Zumbra Heights line, service to Woodside, Shady Island and Birch Bluff improved from every two hours to hourly because the boat hit those docks in both directions.

Formerly, the Spring Park line had met all trains at Wildhurst and the Minnetonka Beach line met them at Excelsior. Under the new arrangement, a boat would start at Wildhurst, run the Spring Park line, then pass through the Narrows. Next it would do the Minnetonka Beach line, winding up at the train connection in Excelsior, followed by a run to Wayzata. At the same time, the other five boats were working their way up the lake from Wayzata to Excelsior to Minnetonka Beach, to Spring Park via the Narrows and then to Wildhurst. Tying the lines together lengthened the trip in one direction for Spring Park and Minnetonka beach passengers, but the frequency doubled from hourly to half-hourly.

The crews had to be incredibly knowledgeable about the lake and its conditions. Under the previous one-boat-per-route system, no crew served more than eight docks, now every crew had to learn 27 of them.

Let's follow an express boat through a post-1913 round trip that takes it to every corner of the lake. The schedule repeated itself hourly. Specific boats were assigned to each run. In our case, we're riding the Minnehaha on run 3. A train arrives at Excelsior at 10:15 AM. Passengers immediately transfer to the Minnehaha, which is headed for Wayzata two minutes later. At 10:42 it docks at Deephaven, where

FAST EXPRESS BOATS									
ZUMBRA HEIGHTS TO WAYZATA									
LANDINGS	Miles	Ex. Sun.	Ex. Sun.	Ex. Sun.	Ex. Sun.	Ex. Sun.	Ex. Sun.	Ex. Sun.	Ex. Sun.
Leave Crane Island	.00	.....	.....	.....	.....	.....	.....	.....	.....
" Zumbra Heights	.56	.....	.....	.....	.....	.....	.....	.....	.....
" Woodside	1.80	.....	.....	.....	.....	.....	.....	.....	.....
" Shady Island	2.68	.....	.....	.....	.....	.....	.....	.....	.....
" Edgewood	3.28	.....	.....	.....	.....	.....	.....	.....	.....
" Birch Bluff	3.88	.....	.....	.....	.....	.....	.....	.....	.....
Arrive WILDHURST	4.88	.....	.....	.....	.....	.....	.....	.....	.....
Leave Casco	5.63	.....	.....	.....	.....	.....	.....	.....	.....
" Isle View	6.63	.....	.....	.....	.....	.....	.....	.....	.....
Arrive SPRING PARK	7.35	.....	.....	.....	.....	.....	.....	.....	.....
Leave Woolnoughs	7.88	.....	.....	.....	.....	.....	.....	.....	.....
" Isle View	8.54	.....	.....	.....	.....	.....	.....	.....	.....
" Casco	9.54	.....	.....	.....	.....	.....	.....	.....	.....
" Narrows	10.54	.....	.....	.....	.....	.....	.....	.....	.....
" Minnetonka Beach	11.59	.....	.....	.....	.....	.....	.....	.....	.....
" Arcola	11.89	.....	.....	.....	.....	.....	.....	.....	.....
" Wheelers	12.69	.....	.....	.....	.....	.....	.....	.....	.....
" Tonka Bay	13.47	.....	.....	.....	.....	.....	.....	.....	.....
Arrive EXCELSIOR	14.82	.....	.....	.....	.....	.....	.....	.....	.....
Leave Mendville	15.46	.....	.....	.....	.....	.....	.....	.....	.....
" Fairview-St. Albans	16.16	.....	.....	.....	.....	.....	.....	.....	.....
" Linwood	16.76	.....	.....	.....	.....	.....	.....	.....	.....
" Cottagewood	18.39	.....	.....	.....	.....	.....	.....	.....	.....
Arrive DEEPAHVEN	18.86	.....	.....	.....	.....	.....	.....	.....	.....
Leave Breezy Point	20.93	.....	.....	.....	.....	.....	.....	.....	.....
" Wayzata	21.80	.....	.....	.....	.....	.....	.....	.....	.....

WAYZATA TO ZUMBRA HEIGHTS									
LANDINGS	Miles	Ex. Sun.	Ex. Sun.	Ex. Sun.	Ex. Sun.	Ex. Sun.	Ex. Sun.	Ex. Sun.	Ex. Sun.
Leave Wayzata	.00	.....	.....	.....	.....	.....	.....	.....	.....
" Breezy Point	.87	.....	.....	.....	.....	.....	.....	.....	.....
Arrive DEEPAHVEN	2.94	.....	.....	.....	.....	.....	.....	.....	.....
Leave Cottagewood	3.41	.....	.....	.....	.....	.....	.....	.....	.....
" Fairview-St. Albans	5.94	.....	.....	.....	.....	.....	.....	.....	.....
" Mendville	6.94	.....	.....	.....	.....	.....	.....	.....	.....
Arrive EXCELSIOR	6.94	.....	.....	.....	.....	.....	.....	.....	.....
Leave Tonka Bay	8.33	.....	.....	.....	.....	.....	.....	.....	.....
" Wheelers	9.11	.....	.....	.....	.....	.....	.....	.....	.....
" Arcola	9.91	.....	.....	.....	.....	.....	.....	.....	.....
" Minnetonka Beach	10.41	.....	.....	.....	.....	.....	.....	.....	.....
" Narrows	11.26	.....	.....	.....	.....	.....	.....	.....	.....
" Casco	12.26	.....	.....	.....	.....	.....	.....	.....	.....
" Isle View	13.26	.....	.....	.....	.....	.....	.....	.....	.....
Arrive SPRING PARK	14.01	.....	.....	.....	.....	.....	.....	.....	.....
Leave Woolnoughs	14.61	.....	.....	.....	.....	.....	.....	.....	.....
" Isle View	15.17	.....	.....	.....	.....	.....	.....	.....	.....
" Casco	16.17	.....	.....	.....	.....	.....	.....	.....	.....
Arrive WILDHURST	16.92	.....	.....	.....	.....	.....	.....	.....	.....
Leave Birch Bluff	17.92	.....	.....	.....	.....	.....	.....	.....	.....
" Edgewood	18.52	.....	.....	.....	.....	.....	.....	.....	.....
" Shady Island	19.12	.....	.....	.....	.....	.....	.....	.....	.....
" Woodside	20.00	.....	.....	.....	.....	.....	.....	.....	.....

Starting in 1912, the express boats covered all ports in a single continuous route



BAGGAGE SERVICE—RAIL LINES									
Daily Except Sundays, May 30 and July 4									
9	9	Miles	STOPS	9	9	9	9	9	9
PM.	AM.			PM.	AM.			PM.	AM.
2:38	8:40	.00	Ly. Minneapolis	Ar.	AM.	PM.		6:28	6:28
2:50	8:57	4.33	" 12nd Street	"	11:08	6:10		11:08	6:10
2:53	9:00	5.45	" City Limits	"	11:09	6:07		11:09	6:07
2:56	9:02	5.72	" Grimes	"	11:03	6:06		11:03	6:06
2:56	9:03	6.25	" Brookside	"	11:02	6:04		11:02	6:04
2:57	9:04	6.71	" Interlachen	"	11:01	6:03		11:01	6:03
2:58	9:05	7.98	" Mendota	"	11:00	6:02		11:00	6:02
2:59	9:06	8.29	" Sub Station	"	10:59	6:01		10:59	6:01
3:00	9:07	9.05	" Hopkins-9th Ave.	"	10:58	6:00		10:58	6:00
3:01	9:08	9.54	" Deephaven Jet.	"	11:57	5:59		11:57	5:59
3:02	9:09	10.00	" Glen Lake	"	10:56	5:58		10:56	5:58
3:04	9:11	11.94	" Cottage	"	10:54	5:54		10:54	5:54
3:05	9:12	12.64	" Vine Hill	"	10:53	4:53		10:53	4:53
3:06	9:13	14.77	" Christmas Lake	"	10:50	4:48		10:50	4:48
3:10	9:17	15.89	" Excelsior-2nd St.	"	10:48	4:46		10:48	4:46
3:12	9:19	17.27	" Manitowish	"	10:46	4:42		10:46	4:42
3:15	9:22	17.88	" Crescent Beach	"	10:45	4:41		10:45	4:41
3:43	9:43	18.12	" Wildhurst	"	10:43	4:43		10:43	4:43
3:48	9:48	19.47	" Tonka Bay	"	10:42	4:42		10:42	4:42
3:50	9:50	20.15	" Baker	"	10:39	4:39		10:39	4:39
3:51	9:51	20.41	" Williston Park	"	10:37	4:36		10:37	4:36
3:55	9:55	21.19	" Tonka Bay	"	10:36	4:33		10:36	4:33
5:05	.....	9.79	" Hopkins	"	.....	.....		.....	.....
5:10	.....	11.53	" Fairview	"	.....	.....		.....	.....
5:13	.....	12.79	" Linwood	"	.....	.....		.....	.....
5:15	.....	13.63	" Cottage	"	.....	.....		.....	.....
5:18	.....	14.86	" Breezy Point	"	.....	.....		.....	.....
5:20	.....	15.43	" Wayzata	"	.....	.....		.....	.....
5:21	.....	15.91	" Wheelers	"	.....	.....		.....	.....
5:23	.....	16.54	" Arcola	"	.....	.....		.....	.....

BAGGAGE SERVICE—BOAT LINES									
Daily Except Sundays, May 30 and July 4									
PM.	AM.	Lv.	Minneapolis	Ar.	PM.	AM.	Lv.	Minneapolis	Ar.
2:38	8:40	.....	Fairview	.....	4:23	10:23	.....	Minneapolis	.....
4:23	10:23	.....	Linwood	.....	4:27	10:27	.....	Minneapolis	.....
4:27	10:27	.....	Cottage	.....	4:28	10:28	.....	Minneapolis	.....
4:28	10:28	.....	Breezy Point	.....	4:58	10:58	.....	Minneapolis	.....
4:58	10:58	.....	Wayzata	.....	5:05	11:05	.....	Minneapolis	.....
5:05	11:05	.....	Wheelers	.....	5:06	11:06	.....	Minneapolis	.....
5:06	11:06	.....	Arcola	.....	5:06	11:06	.....	Minneapolis	.....
5:06	11:06	.....	Minnetonka Beach	.....	5:06	11:06	.....	Minneapolis	.....
5:06	11:06	.....	Narrows	.....	5:06	11:06	.....	Minneapolis	.....
5:06	11:06	.....	Casco	.....	5:06	11:06	.....	Minneapolis	.....
5:06	11:06	.....	Isle View	.....	5:06	11:06	.....	Minneapolis	.....
5:06	11:06	.....	Spring Park	.....	5:06	11:06	.....	Minneapolis	.....
5:06	11:06	.....	Woolnoughs	.....	5:06	11:06	.....	Minneapolis	.....
5:06	11:06	.....	Birch Bluff	.....	5:06	11:06	.....	Minneapolis	.....
5:06	11:06	.....	Edgewood	.....	5:06	11:06	.....	Minneapolis	.....
5:06	11:06	.....	Shady Island	.....	5:06	11:06	.....	Minneapolis	.....
5:06	11:06	.....	Woodside	.....	5:06	11:06	.....	Minneapolis	.....
5:06	11:06	.....	Wayzata	.....	5:06	11:06	.....	Minneapolis	.....

Deephaven train is waiting during its 10:38-10:45 layover. After a three minute pause to exchange passengers, the boat departs for Wayzata, where it takes a 12 minute layover, leaving at 11:17.

We pause again from 11:40-42 at the Deephaven dock, another perfect connection with the Deephaven car, and leave just as the next Wayzata-bound boat arrives. Arrival at Excelsior is at 12:06 after, four minutes before the train from Tonka Bay stops on its way to Minneapolis. The connection made, the crew gets 31 minutes to relax. At 12:45, the train from Minneapolis arrives, passengers transfer to the Minnehaha, and two minutes later we cast off for Minnetonka Beach and, eventually, Zumbra Heights. The first dock is Tonka Bay, where we connect again with the same train that fed us at Excelsior, now laying over at the Tonka Bay terminal.

From there it's on to Minnetonka Beach via the traditional route around the west end of Big Island. However, instead of retracing our path to Excelsior, as would have happened before 1913, we head for the Narrows and the Upper Lake. We round Casco Point and call at Spring Park, which before 1913 would have been the end of the separate Spring park-Wildhurst line. We and the boat from Zumbra Heights both arrive at Wildhurst at 1:57, receive passengers from the Minneapolis-Tonka Bay train that arrived at 1:52. We feed passengers to the Minneapolis-bound train, which shows up at 2:03. Three minutes after docking, both boats leave, we for Zumbra and the other boat for Spring Park.

Between Wildhurst and Zumbra Heights, half the boats bypassed

The ferry St. Paul and the TCRT excursion boat Puritan at the Big Island dock. Minnesota Historical Society collection

Enchanted Island and Crane Island. Their crews got six minutes of layover. Those that stopped at the two island left Zumbra one minute after arriving.

Our boat returns to Wildhurst, meets the Zumbra-bound boat, leaves passengers for the Minneapolis train and receives them for Spring Park. Then it's back through the Narrows, to Minnetonka Beach, and finally to Excelsior at 4:06. The boat from Wayzata slides in next to us. Three minutes later, the train to Minneapolis pulls in.

The precision timekeeping required to make all these connections was extraordinary. The trip described above took just under six hours, and covered 45 miles. The boat docked 49 times. Most of the boat/train connections required hitting windows of one to six minutes. The proof that it was a precision operation is seen in a TCRT schedule sheet from the period that measured boat travel time between docks down to the second.

Meanwhile, the trains had to travel 18, 20 and 17 miles from Minneapolis to the respective docks at Excelsior, Wildhurst and Deephaven. Train crews had six minutes of layover in Minneapolis, five minutes in Tonka Bay, and seven minutes in Deephaven. Only the Excelsior Limiteds got 23 minutes at 2nd and Water Street. There was real potential for delay within Minneapolis, where trains had to share the track with local streetcars of the Bryn Mawr, Kenwood, Bryant, St. Louis Park, Como-Harriet, Oak-Harriet, and Hopkins lines. Almost any delay could trigger a series of missed connections, yet it apparently worked.

Excursion Boats

Excursion and charter boats had been a fixture on Lake Minnetonka for over 25 years when TCRT essentially took over the lake in 1905. Although its glory days as a national destination were over, there was still a tour market

to be served. To serve it, TCRT purchased four of the five remaining large steamers on the lake. They were available for charter, and held down three-hour, 40-mile tours. This operation was completely separate from the scheduled service provided by the express boats. The separate tour business lasted until 1911 when the excursion boats were scuttled.

Through some clever scheduling, TCRT found a way to make the express boats do double duty as both scheduled transportation and excursion tour boats. The continuous routing schedule described above caused each express boat to cover each of the four former steamboat routes in sequence. Stay on the boat and eventually you'd see the whole lake.

Once this system was in place, with all of its timed connections between boats and trains, TCRT came up with nine variations on the streetcar-boat-streetcar circle tour. They ranged from three to seven hours (see TCRT ad). For example, one 3-hour tour involved a transfer from streetcar to boat at Excelsior, a boat ride to Minnetonka Beach, through the Narrows, to Spring Park, then a transfer back to train at Wildhurst. Interestingly, connections at Deephaven weren't used, even though that would have added who knows how many variations to the possible excursions.

Docks and Express Boat Service Levels

Boats were operated from May 15th through September 30th. The fare was 10 cents between any two points on the same route, 20 cents round trip, and no transfers were issued.

For most of the steamboat years, the same 23 docks were served. However, another nine docks were served for only a few of those years, and a couple for only a single year. Most were intermediate points between

BIG ISLAND PARK FERRIES

Excelsior to Park—2.06 Miles—20 Minutes

WEEKDAYS		SUNDAYS	
Leave Excelsior	Leave Park	Leave Excelsior	Leave Park
10:20 A.M.	10:50 A.M.	9:20 A.M.	9:50 A.M.
11:20 " "	11:50 " "	9:50 " "	10:20 " "
12:20 P.M.	12:50 P.M.	10:20 " "	10:50 " "
1:20 " "	1:50 " "	10:50 " "	11:20 " "
2:20 " "	2:50 " "	11:20 " "	11:50 " "
3:20 " "	3:50 " "	11:50 " "	12:20 P.M.
4:20 " "	4:50 " "	12:20 P.M.	12:50 " "
5:20 " "	5:50 " "	12:50 " "	1:20 " "
6:20 " "	6:50 " "	1:20 " "	1:50 " "
7:20 " "	7:50 " "	1:50 " "	2:20 " "
8:20 " "	8:50 " "	2:50 " "	3:20 " "
9:20 " "	9:50 " "	3:20 " "	3:50 " "
		3:50 " "	4:20 " "
		4:20 " "	4:50 " "
		4:50 " "	5:20 " "
		5:20 " "	5:50 " "
		5:50 " "	6:20 " "
		6:20 " "	6:50 " "
		6:50 " "	7:20 " "
		7:20 " "	7:50 " "
		7:50 " "	8:20 " "
		8:20 " "	8:50 " "
		8:50 " "	9:20 " "
		9:20 " "	9:50 " "
		10:15 " "	10:30 " "

On Sundays Only,
Express Boats leave Park
at 10:00 P. M to receive
or discharge passengers,
at various Express Boat
Docks.

BAGGAGE INFORMATION

Personal Baggage is carried over the Rail and Boat Lines of this Company between Minneapolis and Lake Minnetonka points as per schedules shown herewith.

Patrons are thus advised when to have Baggage ready at Train or Boat Stopping Places for shipment to Minneapolis and also when to expect their Baggage from Minneapolis.

The term "Baggage" applies only to trunks, valises, dress suit cases, telescopes, satchels, handbags, or steamer bags containing wearing apparel or personal effects of owner.

"Baggage" does not mean household goods in any form whatever—sewing machines, lawn mowers, garden tools, tents, rolls of rugs, etc., which will be carried only as Express commodities.

Only such Baggage as is commonly accepted by any steam railroad will be checked and under no circumstances will any single piece of Baggage weighing more than 150 pounds be accepted.

Only 150 pounds of Baggage, whether in one or more pieces, will be received on any one ticket for any one trip of Baggage Train or Boat.

All Baggage from Minneapolis to Lake Minnetonka points must be delivered at the Company's Ticket Office 17 North 6th Street, Minneapolis, and all Baggage from Lake Minnetonka points to Minneapolis will be delivered at the same place in Minneapolis by Company, from which place owner must have same removed within 24 hours after delivery. Otherwise Baggage will be subject to Storage Charges.

Baggage will be accepted for checking only on presentation of Lake Minnetonka 25-Ride Ticket, or Lake

established docks. The real exception is Mound, which was several miles beyond the end of the Zumbra Heights line and by far the most northwesterly point ever served. To reach it required running up a dredged channel to a dredged turning loop in Lost Lake, near the Great Northern's Mound depot. The presence of fast, and much more direct trains ultimately defeated the boat service, which was only competitive from other points on the lake. Nonetheless, TCRT scheduled a boat every two hours in 1908 and maybe 1909, then tried again with intermittent service in 1911.

Minnetonka One-Way Trip Ticket. No Baggage will be checked on Special Excursion Ticket (Form 1).

In carrying Personal Baggage, this Company does not assume any liability after Baggage is deposited at destination, whether Crossroad, Station or Dock to which Baggage is checked. Owner must take care of Baggage immediately on delivery at destination to protect same from damage by rains or destruction, or loss or damage by any other means. After delivery of Baggage at destination, to which it has been checked, this Company cannot, and does not, agree to any further liability and such Baggage will be deposited at Crossroad, Station or Dock at sole risk of owner.

BAGGAGE SERVICE—RAIL LINES

* Daily † Except Sunday

A.M.	P.M.	Lv.	MINNEAPOLIS	Ar.	A.M.	P.M.
8:48	12:33	Ar.	Lake Harriet	Lv.	11:26	16:28
9:05	2:50		Grimes		11:38	6:10
9:10	2:55		Browndale		11:03	6:05
9:11	2:56		Brookside		11:02	6:04
9:12	2:57		Mendelssohn		11:01	6:03
9:14	2:59		Hopkins Sub Sta.		10:59	6:01
9:15	3:00		9th Ave.		10:58	6:00
9:16	3:01		Deephaven Jct.		10:57	5:59
9:17	3:02		Glen Lake		10:53	4:53
9:20	3:05		Clearspring		10:50	4:50
9:23	3:08		Vine Hill		10:48	4:48
9:25	3:10		Christmas Lake		10:46	4:46
9:27	3:12	Ar.	EXCELSIOR	Lv.	10:45	4:45
9:28	3:13	Lv.	STATION	Ar.	10:45	4:45
9:43	3:43	Ar.	Manitou	Lv.	10:40	4:40
9:48	3:48		Crescent Beach		10:38	4:38
9:50	3:50		Wildhurst		10:37	4:37
9:51	3:51		TONKA BAY		10:33	4:33
9:55	3:55		Hopkins-Excel r. Av.			
5:10	5:05		Deephaven Jct.			5:38
5:12	5:07		Baker			5:56
5:15	5:10		Boulevard			5:53
5:18	5:13		Groveland			5:50
5:20	5:15		Breezy Point			5:48
5:21	5:16		Northome			5:47
5:22	5:17	Ar.	DEEPAVEN	Lv.		5:45

BAGGAGE SERVICE—BOAT LINES

Daily Except Sunday

A.M.	P.M.	Lv.	MINNEAPOLIS	Ar.	A.M.	P.M.
8:48	2:33	Ar.	Meadville	Lv.	11:26	6:28
10:18	4:18		Fairview		9:06	3:06
10:23	4:23		Linwood		9:03	3:03
10:27	4:27		Cottagewood		8:58	2:58
10:38	4:38		Breezy Point		8:49	2:49
10:58	4:58		Wayzata		8:27	2:27
11:05	5:05		Wheeler's		8:20	2:20
9:58	3:58		Areola		9:22	3:22
10:01	4:01		Minnetonka Beach		9:18	3:18
10:03	4:03		Casco		9:15	3:15
10:09	4:09		Isle View		9:57	3:48
10:14	4:03		Spring Park		9:52	3:41
10:19	4:08		Woolnough's		9:47	3:36
10:24	4:13		Birch Bluff		9:42	3:31
10:28	4:17	Ar.	Edgewood	Lv.	8:58	2:47
			Shady Island		8:53	2:42
			Woodside		8:49	2:38
			Zumbra Heights		8:46	2:35
					9:38	3:27

Big Island ferry service and baggage service, from the May 28, 1910 schedule brochure.

Crane Island was another dock that received intermittent service rather than hourly or every two hours.

Service levels for the four routes were every two hours in 1907. This increased to hourly in 1908, except for Zumbra Heights which remained every two hours. Zumbra became hourly in 1909, except that the smaller intermediate docks were alternated every two hours.

Except for a dip during World War I,



annual boat ridership held steady at 220,000 or more through 1921. All across the country, 1921 is always about when the automobile takes hold and all types of public transportation ridership start a serious decline. So it was with the boats, dropping from 220,000 rides in 1921 to 68,000 in 1924. With declining ridership came reductions in service. From the 1920s timetables that are available, it appears that TCRT discontinued the Wayzata and Minnetonka Beach runs completely. The upper lake routes to Spring Park and Zumbra Heights were combined into one haphazard service that ran six times on weekdays and three times on Sundays to fewer docks, sometimes from Wildhurst and sometimes from Excelsior. A single boat was able to maintain the schedule. The last boat ran on September 15, 1926.

Baggage, Express and Newspapers

Despite being well populated, with dozens of lakeshore tourist attractions and hotels, Lake Minnetonka in 1905 was mostly inaccessible by road. Freight, baggage and express had

always arrived by one of the steam railroads, to be distributed to all the local docks by steamboat. TCRT broke the seam railroad/steamboat connection when it purchased almost all of the surviving steamboats on the lake. However, TCRT had substituted frequent scheduled express boats that covered every place of any importance, so it was only logical to provide a freight service. Rather than use the regular streetcars, demand was large enough to justify two daily trips by a specially built baggage car. Car #34 was built by the 31st Street Shops in late 1905 and entered service in 1906. The only two known photos of the car appear here. In general, it seems to have been constructed like a standard car, but with a single side door instead of windows. It appears to have had open end platforms.

Until 1910 it ran from St. Paul, and thereafter only from Minneapolis. As the schedule shows, it made two daily round trips (morning and afternoon) to Excelsior and Tonka Bay, plus single daily side trips to Deephaven and up the short spur into downtown Hopkins. At Excelsior and Wildhurst it



These are the only two known photos of the baggage car, taken at Nicollet Station, and awaiting scrapping at Snelling Shops. Minnesota Historical Society collection.

transferred baggage and express to the boats, for distribution to all lake ports. As described in the Fall 2008 issue of TCL, it may have also carried the mail between post offices along the line.

The baggage car kept running until September 10, 1923, when automobile competition put it out of business. It was dismantled and burned in 1936.

In addition to the baggage car, TCRT dispatched a train called the Early Bird. Leaving Minneapolis at 4:15 AM, an early timetable notes that it was "for fishermen". The 1915 table describes it more accurately as "Newspaper Train, carries passengers". That latter remark implies it was run with a passenger car, not the baggage car. Like the baggage car, it traveled Minneapolis-Tonka Bay. It

returned as far as Hopkins, where it presumably backed up the Hopkins spur, turned on the Hopkins wye and backed down to the mainline. This was necessary because of the lack of wyes on the mainline. This would permit it to deliver papers to downtown Hopkins, and get turned for a run up the Deephaven branch to complete its tour. It's also possible the run used a double ender to avoid the backup move. Although no longer named, the Early Bird was still running in the 1932 timetable, but only to Tonka Bay.

Inside rear cover: The Minnehaha calls at Tonka Bay, where the TCRT excursion boat Excelsior is already docked. A second express boat approaches in the distance. Hibbard photo, Minnesota Historical Society collection.

Rear cover: Minneapolis streetcars traversed some short, sharp grades, mostly in the vicinity of Minnehaha creek. This is the 5.7 percent of Penn Avenue crossing over the creek. Frank Butts photo.







MINNESOTA STREETCAR MUSEUM

PO Box 16509
Minneapolis, MN 55416-0509
www.TrolleyRide.org

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